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FOUNDATION FOR AMATEUR RADIO

March 1988

Official Journal of the Foundation for Amateur Radio

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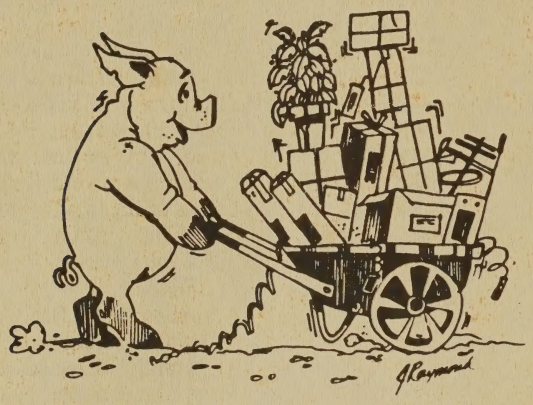

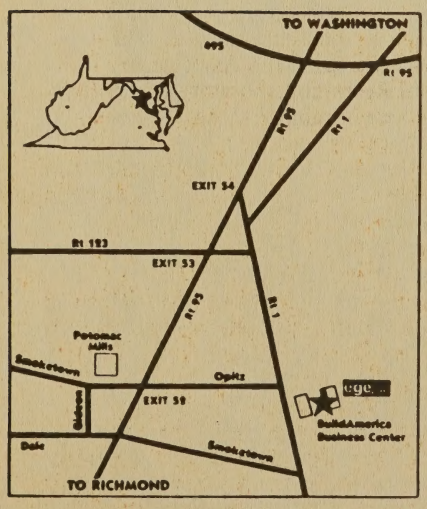

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AUTO-CALL

Official Journal of the Foundation for Amateur Radio

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Deadline for copy is the 8th of the month. All contributions are welcomed, but the editor reserves the right to edit or reject any portions of any copy. Permission is granted for copying from AUTO-CALL provided credit is given.

AUTO-CALL is published monthly as the official journal of the Foundation for Amateur Radio. Comments made by columnists do not necessarily reflect the opinions of the Foundation. No effort is made to investigate advertisers therefore no warranty can be implied.

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Subscriptions received after the 15th of the month will be started with the following month's issue.

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Vienna Wireless Society
Washington Adventist Amateur Radio Association
Washington Area Young Ladies' Amateur Radio Club
Washington Radio Club
Woodbridge Wireless, Inc.

FOUNDATION FOR AMATEUR RADIO

The monthly meetings of the Foundation have become lively, interesting meetings in the past few months. Sincere efforts are being made to broaden the scope of FAR and make it a true leader in the local Amateur community.

At the February 10 meeting, copies of the FAR By-laws and Articles of Incorporation were distributed to all Trustees present and copies will be mailed to all others. President Bob Moore, N3CKD requested that a thorough review of the documents be made and written comments offered at (or before) the May meeting. There has been no major up-dating of the By-laws since 1971!

A number of new efforts are being considered to broaden the scope of the FAR activities. A serious program to encourage more Amateur Radio activity and awareness in local schools is under way. A number of clubs have been carrying out effective programs and it is hoped that the Foundation can offer guidelines (and perhaps even some financial support) to expand this effort.

K3QS gave an interesting report on the efforts, and successes, of the Laurel ARC. He pointed out the need for Amateur participation in community activities to make the general public more aware of the value of Amateur Radio. We need more involvement in city and county legislative bodies in order to keep informed regarding proposed regulations and restrictions which affect Amateur Radio.

One possible change in Foundation policy would be the acceptance of "Associate Membership" for Amateur Radio clubs that are outside the practical commuting area and find it difficult to get regular representation at meetings.

The next meeting of the Foundation will be held at the John Marshall High School in Falls Church, Virginia on March 9. Trustees are urged to attend. Visitors are most welcome.

K4LMB

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FCC Highlights

Bill Grenfell, W4GF

IN GENERAL DOCKET 87-389, FCC HAS PROPOSED TO ALLOW UNLICENSED RF RADIATION THROUGHOUT THE 1.7-960 MHz SPECTRUM AND ABOVE, RANGING FROM 30 TO 500 MICRO-VOLTS PER METER. The ARRL will file comments opposing introduction of intentional radiation devices into the amateur bands. Comment is due by 03/07/88. (ARRL Letter 02/01/88) (Ham radio, 02/88).

A REPORT AND ORDER ON FCC's DOCKET 87-14, WHICH PROPOSES 220-222 MHz FOR LAND MOBILE SERVICES, IS FORECAST TO BE RELEASED ON 03/31/88. (W5YI/02/01/88).

A DECEMBER '87 PETITION (RM-6169) ASKS FCC FOR 500 kHz FROM THE 216-222 MHz BAND FOR TV AND CABLE WATCHERS TO TRANSMIT , VIA HAND-HELD TRANSMITTERS: ANSWERS TO SURVEYS, ORDERS FOR TV PROGRAMS, FOR HOME SHOPPING FOR MERCHANDISE, ETC. In its comments, the ARRL noted that the "...petition was based upon the faulty premise that the 220 band was "under utilized" by amateurs..." ARRL continued with: "Many alternatives exist to the rather incredible proposal to install relatively high-power" (50 watts) "radio transmitters in each residence, to be operated by non-technical persons, on frequencies subject to serious interference to and from other, authorized, over-the-air services on adjacent frequencies." (W5YI/02/01/88; ARRL Letter/02/01/88).

TWO SOUTHERN CALIFORNIA CLUBS HAVE PETITIONED FCC TO EXPAND THE 52-54 MHz REPEATER SUB-BAND TO 51-54 MHz. OR 51.1-54 MHz. Among the reasons given in support of the requests are the change would: make better use of the amateur six meter spectrum; reduce the possibility of TVI; alleviate six meter repeater congestion; provide greater flexibility for frequency coordinating groups; eliminate the need for non-standard repeater splits...etc. (W5YI Report 01/01/88; Westlink Report 01/08/88).

MULTIPLE FREQUENCY COORDINATORS CAN INDEED EXIST IN THE SAME GEOGRAPHICAL AREAS AND CAN COORDINATE THE SAME FREQUENCIES according to RAY KOWALSKI, former Chief of FCC's Special Services Division. "While we did not anticipate that the local or regional amateur community would recognize two volunteer frequency coordinators with overlapping responsibilities in the same geographical area, it is not within our province to disturb such a choice." (W5YI Report/01/15/88).

THE NEW FCC SPECIAL SERVICES DIVISION CHIEF IS ROBERT McNAMARA. Formerly Chief of the Division's Aviation and Marine Branch, McNamara will also be responsible for the other branches of the Division which the includes the Personal Radio Branch and its Amateur Radio Service.

AT THE END OF 1987 THE FCC WAS SHORT TWO OF THE FIVE MEMBERS IT IS SUPPOSED TO HAVE. Three commissioners do, however constitute a quorum, so the FCC will continue to take action on issues under consideration. (ARRL Letter/12/31/87).

CONTRARY TO RUMORS, THE 17 METER AMATEUR BAND (18.068-18.168 MHz) IS NOT YET OPEN TO US AMATEURS. While the band is available to amateurs in many countries on a not-to-interfere basis, it will not become a worldwide exclusive amateur allocation until July, 1989. (ARRL Letter, 01/15/88).

FCC's PRIVATE RADIO BUREAU HAS BEEN ASKED BY THE ARRL TO ALLOW A ONE-YEAR EXTENSION OF THE PRESENT SPECIAL TEMPORARY AUTHORITY (STA) FOR HF AUTOMATIC PACKET OPERATION. This extension

(Continued)

would allow the continued operation of packet-radio automatic message forwarding through 1988 pending drafting and consideration of revised rules. (ARRL Letter, 01/15/88).

A PETITION FOR "INSTANT" NOVICE OPERATION HAS BEEN DENIED BY THE FCC. The basis for the petition was that the interval between the exam and the license was so long that the recently acquired skills of the Novice are diminished. The FCC concluded its reasons for denial with: "On balance, it appears that the application processing period is not unreasonable." (The processing time has been reduced to a normal of about three weeks for Novice licenses). (ARRL Letter, 02/01/88).

A NEW EXTRA CLASS EXAM QUESTION POOL HAS BEEN COMPLETED AND RELEASED AS OF 03/01/88, BUT WILL NOT BE USED UNTIL 11/01/88. "Fifty questions were deleted from FCC PR1035D, thirty-eight new questions have been written, and many have been reworded." "The new question pool will not be revised again for three years except to correct typographical errors and provide FCC rule updates." (ARRL Letter, 01/15/88).

A FEW GOOD VOLUNTEERS ARE STILL BEING SOUGHT FOR THE AMATEUR AUXILIARY TO THE FCC's FIELD OPERATIONS BUREAU. Some of the purposes of the Auxiliary are: Extending the concepts of self-regulation and self administration of the Amateur Radio Service; Enabling the Field Operations Bureau of the FCC to efficiently and effectively utilize its manpower and resources. For further information, contact Luck Hurder at ARRL HQ, 225 Main St., Hartford, CT 06111; (203)666-1541. (ARRL Letter, 01/15/88).

FCC ALLOWS AN EXCEPTION TO THE 2 YEAR GRACE PERIOD FOR APPLICATION FOR RENEWAL OF AN EXPIRED AMATEUR LICENSE. While page 2 of Form 610 specifies a 2 year period, in actual practice "... FCC allows a five year grace period - at least until the last of the old 5-year term ham tickets expire in January of 1989. "While the operator license can be reinstated if it has been expired less than five years, you lose your previous call sign after two years," (W5YI Report, 02/01/88).

AMATEUR LICENSE TESTING TEAMS WHICH NEED MORE THAN 200 FORM 610's CAN OBTAIN THEM AT: FCC Services and Supply Branch, Rm B-10, 1919 M St., NW; Washington, DC 20554.

See page 29 for the latest calls issued for Stateside, Alaska and Hawaii and the end-of-month license totals.

Worldradio

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WORLDRADIO Magazine is published monthly by Worldradio, Inc., an independent newspaper not affiliated with any other firm, group or organization. Its pages are open to all. Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio Commuinity. We emphasize the positive aspects of this great activity. Subscriptions: $12.00 per year. Write 1779 Tribute Rd., Ste. L Sacramento, CA 95815

American Radio Relay League Report

By John Swafford - W4HU

This ARRL Report provides a brief summary of information published in the ARRL LETTER *and other reports. The* LETTER *provides timely news of interest to active radio amateurs. Any League member may subscribe to the* ARRL LETTER.

ARRL BOARD OF DIRECTORS MEETS. The ARRL Board of Directors met on January 22-23 in Farmington, Connecticut. The following synopsis is a brief overview; the complete minutes of the Board meeting will be published in the March issue of QST.

Among the important actions taken were the following;

Incumbent officers reelected are;
President Larry Price, W4RA;
First Vice President, Jay Holladay, W6EJJ;
International Affairs VP, Tod Olson, KØTO;
Executive V.P., Dave Sumner, K1ZZ;
Secretary Perry Williams, W1UED;
Treasurer, James McCobb Jr., K1LLU.
Newly elected as additional Vice Presidents were George Wilson, W4OYI, and Clyde Hurlbert, W5CH.

Elected to the Executive Committee were
Directors Tom Frenaye, K1KI,
Paul Grauer, WØFIR,
Leonard Nathanson, W8RC,
Rodney Stafford, KB6ZV.

The Board adopted the recommendations of the DX Advisory Committee to continue the present DXCC program, with the addition of endorsable single band DXCC awards for 80, 40, and 10 meters with starting dates of November 15, 1945. The Five Band DXCC Award will be endorsable for additional bands, not including the 30, 17, or 12 meter bands at this time. The dates for submitting applications for these new DXCC awards will be announced soon.

A fund raising program was approved for renovation of W1AW, and will commence with an article to appear in April QST.

The West Indies Section was divided into two separate sections--Puerto Rico and the Virgin Islands, including Guantanamo Bay.

ARRL will file comments in the FCC proceeding to amend Part 15 of the FCC rules, Docket 87-389, opposing introduction of intentional radiating devices into the amateur bands. Comments will oppose relaxation of present restrictions on radiation from electronic devices, and support requiring greater education of users of this equipment as to the problem of RF interference.

Responding to recent reports in the media of a possible relationship between Amateur Radio and health hazards, the Board adopted a resolution emphasizing continuing ARRL support of legitimate investigations in this field, while at the same time deploring inaccurate and capricious assessments of scholarly work that have appeared in the news media, causing unfounded anxiety and concern among amateurs.

The Board also endorsed increased participation by ARRL in the NASA Manned Space Program and ratified the establishment of a fund for the defense of Amateur Radio frequencies in the initial amount of $105,000.

ROBOT 6-METER METSCAT STATION A robot 6-meter packet radio meteor scatter (METSCAT) station was on the air in central Iowa during the January 23-25 ARRL VHF Sweepstakes.

Robot QSO functions were provided by Sarex 2 TNC software developed by Howard Goldstein, N2WX, as part of a project headed by Thomas Clark, W3IWI, to fly packet radio capabilities in the space shuttle.

In the future, METSCAT operation is planned for grid square DXpeditions

(Continued)

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HYGAIN
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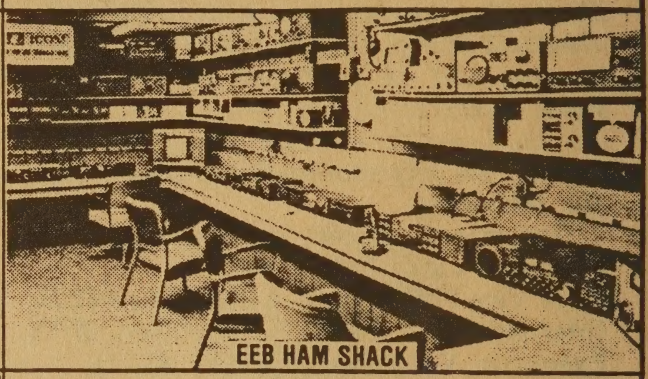
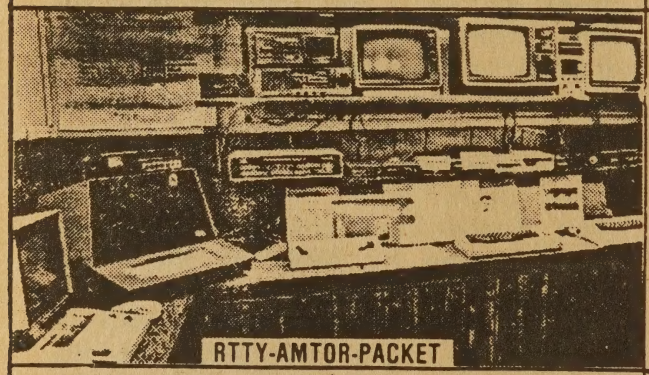


EEB HAM SHACK



RTTY-AMTOR-PACKET

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KLM
LARSEN
LEADER
MAXON
MFJ
MINI-PRODUCTS
MIRAGE
MOSLEY
WM NYE
PALOMAR
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during June and September ARRL VHF contest.

For further information on these events contact Ralph Wallio, WØRPK, at his Callbook address or via packet radio at WAØJFS-1 via the NØAN HF gateway.

It is not yet known if the robot station won the Iowa Section Award!

JUNE VHF QSO PARTY PLAQUES SPONSORS WANTED This is a reminder that sponsors are being sought for plaques to be awarded for the ARRL VHF QSO Party scheduled in June.

This will be a first for the VHF QSO Party, and the handsome plaques will be awarded to the top ten single-op and multi-op scores, and top five in the QRP/portable category.

Cost of each plaque is $40.00. Clubs or individuals wishing to be listed as sponsors in the May issue of QST should contact Billy Lunt, KR1R, at the ARRL HQ Contest Branch prior to March 1st.

Additionally, if your club, group, or even you as an individual have been considering sponsoring a plaque for the DX Contest now is the time.

For a complete listing of plaques available for sponsorship see page 86 in February QST. Because the list changes periodically, please call for an update prior to sending donations for a specific plaque.

If you are interested in sponsoring any of the available plaques, contact Billy Lunt, KR1R, at HQ (202-666-1541). Each plaque requires a $40 donation, all donations are tax deductible, and credit card orders will be accepted.

ARRL POTPOURRI The following job opportunities exist at HQ: Assistant Manager, Volunteer Examiner Coordinator; requires Extra Class license, at least 5 years experience in a broad field of Amateur Radio activities, good working knowledge of FCC rules and regulations, PC skills, experience within the ARRL field organization, and above average skills in proofreading and editing. Salary range is $21,008 - $25,210. Interested parties should contact Jim Clary, WB9IHH, at HQ.

Also needed is an Assistant Manager in the Contest Branch. Qualifications for this position include familiarity with DXCC Countries and ARRL Sections and Divisions, amateur license, PC skills, and some writing skills; an interest in amateur contesting, and accuracy is a must. Contact Billy Lunt, KR1R, at HQ if interested.

ARRL-NWS AGREEMENT SIGNED ARRL Washington Area Coordinator Perry Williams, W1UED, reports that a Memorandum of Understanding (MOU) between the ARRL and the National Weather Service (NWS) has been signed.

The MOU establishes principles of cooperation between the League and the NWS. Signing for the Weather Service was Dr. Richard E. Hallgren, Assistant Administrator. Details of the agreement will follow in QST, Field Forum and Section Leader.

NEW "FOX HUNTING" BOOK AVAILABLE If your club is interested in "fox hunting" (tracking down a hidden transmitter), location of RF interference or just some good fun on a Sunday afternoon, there is a new publication available from HQ that will interest you.

Transmitter Hunting: Radio Direction Finding Simplified, by Joseph Moell, KØOV and Thomas Curlee, WB6UZZ, is a compendium of easy to read information on transmitter hunting. The book has many clear photos and drawings to assist the neophyte in this fascinating area of Amateur Radio. There are also reviews of Commercial equipment, as well as construction plans for home-built units.

(Continued)

The 323 page book covers such topics as dealing with willful interference, equipment lists, weak signal techniques, hiding tricks, hunting cable TV leaks and power line noise, and dealing with jamming.

This publication can prove helpful to hams, SWLs, and search and rescue volunteers alike, and covers the VOLMON program which is the Amateur Auxiliary to the FCC Field Operations Bureau, for those who might wish to become involved.

Transmitter Hunting: Radio Direction Finding Simplified is available from ARRL HQ or your local Amateur Radio book dealer for $18 plus $2.50 for shipping if ordered from HQ. Incidentally, the 4th International Amateur Radio Union (IARU) direction finding championships are to be held near Bern, Switzerland in September of 1988

OSCAR 11 BACK TO NORMAL UoSAT-OSCAR 11 was returned to normal service after problems with the on board computer software were solved. It has been suggested that possibly the 32-kbyte memory bank aboard UO-11 has a bad memory location(s), and this will be tested by running diagnostic test on UO-11 shortly.

The resumption of normal service took considerable effort because control had to be effected through UHF command uplink. This measure was utilized to minimize risk to the spacecraft while still providing a maximum of information to diagnose the problem.

ARRL INSTRUCTOR AND TEACHER OF THE YEAR AWARDS The ARRL Board of Directors has reactivated the "ARRL Herb S. Brier Instructor of the Year Award" and created the new "ARRL Professional Teacher of the Year Award."

If you would like to nominate a particularly effective Amateur Radio instructor (volunteer) or professional teacher (compensated) who is deserving of consideration for one of these awards, submit his or her name to your Section Manager with a brief explanation of why they should be considered.

INSTRUCTOR OF THE YEAR. To be eligible, the nominee must be registered as an active Amateur Radio instructor with the ARRL; must use ARRL training publications, such as Tune in the World with Ham Radio, FCC Rule Book, and/or ARRL license manuals, as part of his training materials; must not be personally compensated, though his students may be charged a fee to offset costs; and must agree in writing that if selected, he will not use the award in promoting any future commercial Amateur Radio teaching ventures.

PROFESSIONAL TEACHER OF THE YEAR To be eligible, the nominee must teach or use Amateur Radio as part of the curriculum in a public or private educational institution and be compensated for the teaching activity; must use ARRL training publications as part of his curriculum material; and must agree in writing that if selected, he will not use the award in promoting any future commercial Amateur Radio teaching ventures.

Winners will be determined based on demonstrated ability, personal commitment and dedication; innovative techniques employed; endorsements and testimonials; and personal follow-through in providing ham radio opportunities for students after they have earned their licenses.

1987 Awards Schedule

Apr 1: nominations due to Section Managers
Apr 15: supplementary info due at HQ
Jul 22: final approval by Board

Note: This schedule applies only to the 1987 Instructor and Teacher of the Year Awards; the schedule for 1988 and thereafter will be announced in QST later in the year.

****

PUBLIC SERVICE REPORT

FCC Regulations 97.1: "The rules and regulations in this part are designed to provide an amateur radio service having a FUNDAMENTAL PURPOSE . . . SERVICE TO THE PUBLIC as a voluntary noncommercial communications service, particularly with respect to PROVIDING EMERGENCY COMMUNICATIONS."

Jeff Wilkes, W4NFA

--- VIRGINIA VOLUNTEERS BUSY IN 87 ---

During a meeting of ARRL Virginia Section volunteers during the Annual Richmond Frostfest, the group was praised by Section Manager Claude Feigley-W3ATQ, Section Traffic Manager Glynn Coates-KB4WT, and Section Emergency Coordinator Earl Bishop-N3EXQ for exceptional accomplishments in 1987. Earl reported that the Section now boasts fifty Emergency Coordinators and nineteen Official Emergency Stations. Glynn pointed out that in December alone, Virginia traffic handlers passed 17,125 messages.

All ARES/RACES appointees are reminded that there is a "ARES Appointees Net" which meets on 3947 KHz. at 2145 each third Wednesday night of each month. Net Control operator is Doug KA4NWK.

-from The Virginia Ham Vol II No. 3

--- NTS EAS MEETS IN ARLINGTON ---

Geri Sweeney-N4GHI was hostess for the National Traffic System Eastern Area Staff meeting in Arlington last October. Vice-Director John Kanode-N4MM who welcomed the group. NTS EAS Net Manager for cycles one and two Joyce Dolby-WB4PNY, Gil Frey-K4JST Fourth Region Packet Net Manager, former Virginia SCM Luck Hurder-KY1T, and Rick Palm-K1CE ARRL Field Services representative participated.

Dominating the traffic issues was packet-based radio routing. Motions recommending zip code addressing for packet traffic and a study for proposals for user interface were passed. The use interface proposal is to be studied by the EAS Region Packet Managers who will report their recommendations in March.

--- THUNDERSTORM TIPS FOR SKYWARN OPERATORS ---

Earlier issues of AUTO-CALL have provided general information about the SKYWARN program sponsored by the National Weather Service. Now that the thunderstorm season is upon us, some tips are in order about the kind of information likely to be requested by the National Weather Service in a summertime SKYWARN operation.

Although April to October is considered as our thunderstorm season, conditions favorable for producing thunderstorms can develop any time of year in this area. It is important year around for ARES/RACES members to be aware of the weather forecast at all times.

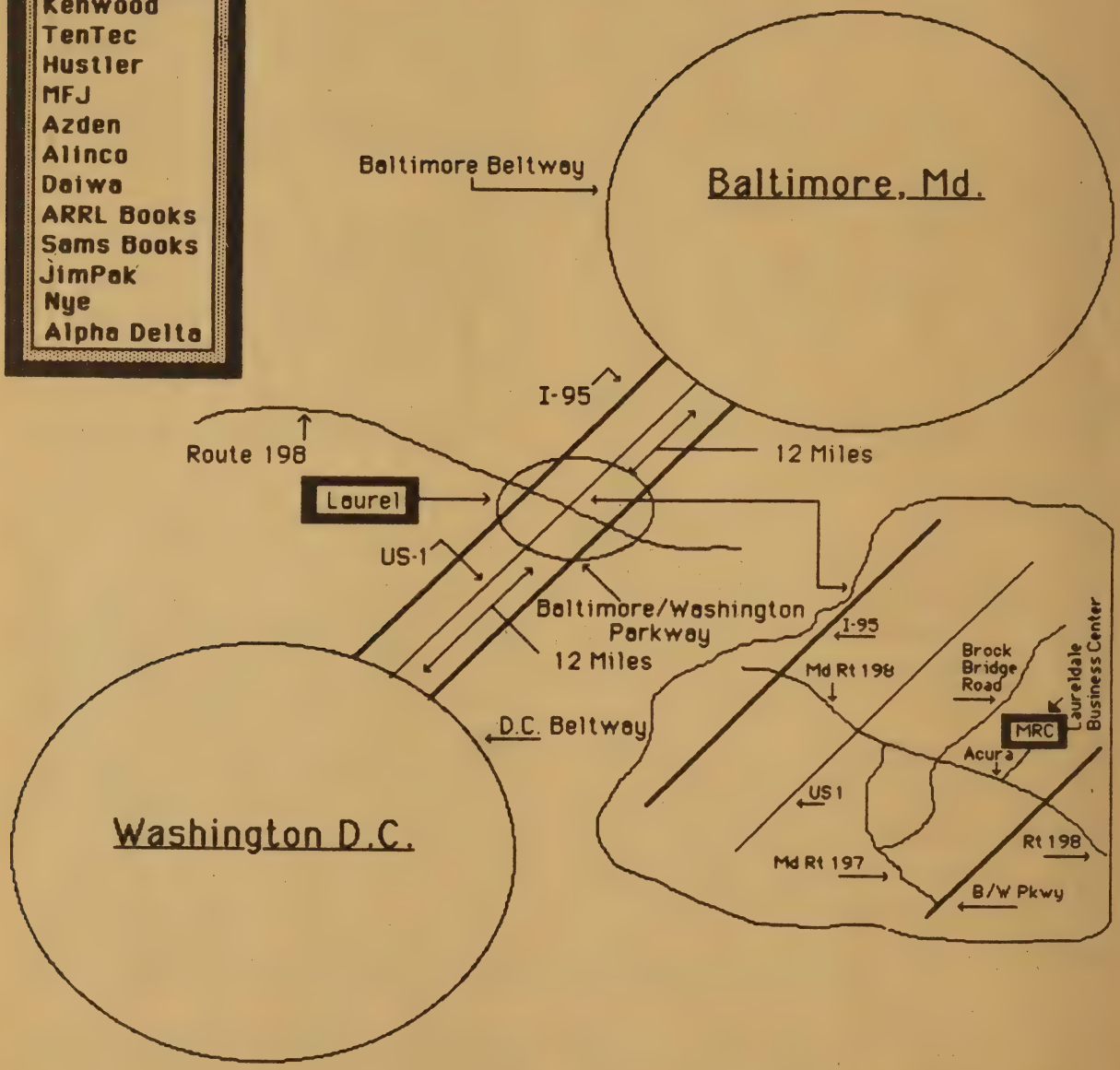
SKYWARN nets will be activated whenever a severe thunderstorm warning (the lowest level of weather alert) is issued for our area. Weather observer reports to the SKYWARN nets will generally contain the following information:

(Continued)

Maryland Radio Center - Location Strip Map

8576 Laureldale Drive Laurel, Md. 20707
(301)-725-1212

- Kenwood
- TenTec
- Hustler
- MFJ
- Azden
- Alinco
- Daiwa
- ARRL Books
- Sams Books
- JimPak
- Nye
- Alpha Delta



Yes.. we do have a service shop !

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Saturday : 9AM - 5PM
Closed Sunday

SKYWARN INFORMATION

1. Observer's call sign
2. Observer's location
3. Time of observation
4. Wind speed
5. Rainfall rate
6. Presence of hail
7. Location and direction of storm

The observer's location should be given precisely accounting for the fact that the forecaster using the observation may not be familiar with every subdivision and hamlet in the area. If you are in a large city or town, give your location relative to a major intersection, e.g. one mile south of New Hampshire and the Beltway. If you are in the country, specify your location relative to a recognizable town, e.g. one mile north of Round Hill.

In most cases, time can be stated as "current." If your observations are more than ten minutes old, give the actual time of the observation in local time-24 hour format. Don't force net control to take the time of calculating the observation time by saying "About fifteen minutes ago the temperature was 28."

If you are fortunate to have a calibrated wind speed indicator, you can report the speed in miles per hour directly. The forecaster is primarily interested in locating areas of gale force winds (upwards of 50 mph), so rough estimates in descriptive terms is adequate for SKYWARN purposes. With some practice, wind speed can be estimated fairly well through observing wind effects, as shown in the following table:

REPORTING TERM	OBSERVATION	SPEED (MPH)
Calm	Smoke rises vertically	Under 1
Light air	Smoke drifts-wind vanes still	1 - 3
Slight breeze	Leaves rustle, wind felt on face normal wind vane movement	4 - 7
Gentle breeze	Leaves and twigs in constant motion, light flags extended	8 - 12
Moderate breeze	Dust and loose paper raised, breeze, small branches move	13 - 18
Fresh breeze	Small trees in leaf begin to sway, crested wavelets on inland water	19 - 24
Strong breeze	Large branches move, overhead utility lines whistle	25 - 31
High breeze	Whole trees in motion, noticeable resistance in walking against wind	32 - 38
Gale	Twigs break off trees, walking impeded	39 - 46
Strong gale	Slight structural damage, violent tree motion	47 - 54
Whole gale	Significant structural damage, trees uprooted, seldom occurs inland	55 - 63
Storm	Rarely occurs, widespread damage	64 - 75
Hurricane	Very rare, extensive damage, large objects hurled, buildings collapse, entire roofs lifted	above 75

If you have a rain gauge, you may be able to report a numerical value. But most of us will report using the terms LIGHT, MODERATE, HEAVY, and DELUGE. Heavy rain indicates a strong down-draft within a thunderstorm. Your description may help the forecaster pinpoint your exact location relative to what is seen on the radar screen.

(Continued)

Hail is produced in severe storms with strong updrafts. Although not as dangerous as a tornado, a severe thunderstorm may last much longer than the average thunderstorm and cause considerable damage.

You can estimate your distance from a thunderstorm by measuring how long it takes for the thunder to reach you. Remember that sound requires about five seconds to travel a mile. If you have a good view to the horizon, you may also be able to judge a storm's position relative to landmarks that can be pinpointed on a map. Every SKYWARN operator should know where the compass points are at his usual operating position.

The following are danger signs which should be reported immediately. If one of these danger signs is observed, break into the net using the words, "Break, emergency traffic". When recognized, calmly give your call sign, location, and a brief summary of your observation. Keep your transmission short, then stand by so that the forecaster can question you further as to the details. Note: The first rule of emergency communications is to protect yourself. Ensure your own safety first, then and only then communicate your observations.

Danger sign #1: FUNNEL CLOUDS. A funnel cloud extends from the base of a towering cumulus (thunderhead) or cumulonimbus (mature thunderstorm) cloud. It may or may not reach the ground. Many harmless clouds are funnel shaped. Don't be fooled by an imposter. A true funnel cloud will exhibit (in the words of the Spotter's Guide) "organized and sustained rotation about a nearly vertical axis".

Danger sign #2: HAIL GREATER THAN 3/4 INCH IN DIAMETER. Hail greater than penny size is indicative of a severe, damage-producing thunderstorm and should be reported immediately.

Danger sign #3: WINDS GREATER THAN 50 MILES PER HOUR. At 45 mph, twigs break off trees and walking in difficult. At 55 mph, damage to chimneys and antennas may be observed. Damaging winds, whether associated with a tornado or a severe thunderstorm, should be reported immediately. In our area, there are lots of large trees that sustain damage in moderate winds. Generally, such incidents are not critical in weather terms.

Danger sign #4: FLASH FLOODING. If you live in an area prone to flooding, torrential downpours and/or evidence of actual flooding should be reported immediately.

This discussion of SKYWARN procedures is just a brief overview. If we have whetted your appetite, contact your local Emergency Coordinator for more information. The Weather Service has a number of free publications available for SKYWARN volunteers. NWS forecasters periodically conduct training sessions specifically oriented to amateur radio.

-reported by Al KN3U

--- 1988 LOOK AHEAD ---

March will begin the 1988 public service event calendar for 1988. Listed below are the various events which were covered in PUBLIC SERVICE REPORT in 1987. The amateur radio coordinators for each of these events last year should be either committing to support them this year or finding someone else to take over. If the sponsoring organization fails to contact you, it would be advisable for you to contact them at least a month early to avoid the last minute panic when they finally remember to request amateur radio assistance. (Continued)

1988 LOOK AHEAD

March: Alexandria St. Patrick's Day Parade

April: D.C. Annual Cherry Blossom Parade

May: Crystal City Health Club 10K
MS 150K Bike Tour-Vienna to Harper's Ferry
Fritzbe's Run in Rockville
Rockville Memorial Day Parade
Annual School Safety Patrol Parade
Viva Vienna
Annual Spencerville Healthy Choices Run
Annual School Safety Patrol Parade

June: Capital Motion Bikeathon

July: Rockville Fireworks Display
Rockville Rotary 8K Run
National Independence Day Parade
Vienna Independence Day Fair
Fairfax City Independence Day Parade

Sept: International Children's Festival at Wolftrap Park
North American Open Championship Endurance Horse Ride

Oct: Annual D.C. Firefighter's Parade
Prince William County Park Authority bicycle tour
ARRL Annual Simulated Emergency Test (SET)
Vienna Annual Halloween Parade; Jeff W4NFA 281-4249
Vienna Spook Watch
Capital Hill Equestrian Society (CHES) Semi-annual Hunter Trials
Mt. Vernon High School Classic 6K Run

Nov: Annual Marine Marathon

Dec: Annual Manassas Christmas Parade

PUBLIC SERVICE CALENDAR

2/22/88: National Capital ARES (NCARES) Council Meeting; 1915 at D.C. Red Cross Chapter House Board Room 2021 E St. NW
2/28/87: EC Conference at WINTERFEST<tm>, subject: SKYWARN
3/12/88: Alexandria St. Patrick Day's Parade; contact Chuck N4HCP 971-0348
3/21/88: NCARES Council Meeting; 1915
4/9/88: D.C. Annual Cherry Blossom Parade; contact Joe WB4WZZ 241-0078
4/18/88: NCARES Council Meeting; 1915

See pages 38-39 for Public Service Nets and Area ECs

Material for PUBLIC SERVICE REPORT can be left at W4NFA-1 PBBS on 145.07 or mailed to 9809 Meadow Dale Ct., Vienna, Va. 22180. Deadline for receipt of material is the fifth of the month.

Silent Keys

Theodore A. Schaeffer - K3ULQ

Ted Schaeffer, a retired Army lieutenant colonel and resident of Dale City, died on 21 January after a brief illness.

Ted's tragic and untimely demise came as a shock to his many friends in the Amateur Radio community. He was a member of the Woodbridge Wireless, Inc., Amateur Radio club and for 15 years had directed the club's Amateur Radio training program. Under the auspices of this program, hundreds of individuals received 25 - 50 hours of free training to become ham radio operators or to upgrade their licenses. The hundreds of hours Ted donated each year to Amateur Radio training did more than simply swell the ranks of ham radio operators. His selfless efforts introduced countless young people to the wonders of science and brought numerous individuals, both young and old, with diverse backgrounds and occupations, together to share a common interest.

Ted's commitment to education went beyond Amateur Radio. He taught courses about computers, radio-controlled airplanes and other areas that captured his interest. In all his teaching endeavors, he had the rare ability to communicate his extraordinary expertise as well as his love of the material.

More importantly, Ted was a gentleman. He was kind, patient, and always ready to help a friend with some radio construction project, to raise an antenna or complete some other objective. His energy, common sense and marvelous sense of humor made all of these projects truly memorable occasions.

Ted, the hundreds of hams you have helped and influenced for the better thank you. We will miss you, K3ULQ!! SK

Submitted by John M. Weinstein, N4PKL

George L. Axford - N4YQ

George Axford - N4YQ died on January 10 in Falls Church, VA. He was very active in CW traffic handling for a number of years. It is with much personal saddness that I report this new Silent Key.

(Submited by Keith Wiese, WA3UQR)

What is Amateur Radio?

Amateur Radio, also known as "ham radio," is communicating. Hams, who must be licensed by their governments, operate two-way equipment from their homes and cars. They communicate with other hams across town or across the world on special sets of radio frequencies, or bands, that are set aside for Amateur Radio use.

Who are hams?

Just about anyone can be a ham—there are no age limits. Many people with disabilities find a door to the world in Amateur Radio. Some famous people are hams, but most are just people from all walks of life who like making new friends around the world.

How can I become a ham?

Getting a ham radio license is easier than you may think. In the US, the Novice (beginner's) license requires only passing a 30-question written exam on basic electronic theory and FCC rules and regulations, along with copying and sending Morse code at five words per minute.

The American Radio Relay League (ARRL) offers a wide variety of information for persons interested in radio communication. We can also provide you with a list of clubs and instructors in your area. Many local Amateur Radio clubs offer licensing courses several times a year.

For a prospective ham packet, contact the ARRL, Dept Q, 225 Main St, Newington, CT 06111, tel 203-666-1541.

ARRL ASSISTANT TECHNICAL COORDINATOR PROGRAM
In the Maryland-DC Section
By Herb L. Ley, Jr., N3CDR

One of the less well known ARRL Field Organization Programs is the Assistant Technical Coordinator (ATC) Program, set up in 1985 at the time the League decentralized many of its activities. The objectives of the ARRL in establishing the ATC appointments were outlined in a memo from Newington which listed a number of functions the ATCs were to provide in the Sections. The following is an abbreviated listing:

1. To serve as a source of technical assistance by telephone or letter on topics or areas in which the ATC is active, or to refer inquiries to other ATCs with the applicable interests.

2. To serve as an advisor in radio frequency interference (RFI) problems.

3. To speak at local clubs on technical topics in which the ATC is knowledgeable.

4. To represent ARRL at technical symposiums in industry, to serve on CATV advisory committees, and to advise municipal governments on technical matters.

5. To work with other ARRL officials and appointees when called upon for technical advice, especially in emergency communications situations.

6. To handle other miscellaneous technically-related tasks assigned by the Section Technical Coordinator.

This is a rather broad ranging set of responsibilities! Furthermore, many of the activities proposed by the ARRL for ATCs overlap ongoing programs of area clubs. Nevertheless, there's always room for more help in obtaining speakers and in dealing with RFI and CATV problems!

The ARRL published the ATC appointments for each Section of the Field Organization, including the MD-DC Section, under the heading, "Station Appointments," in its publication, "Amateur Radio Field Resources Directory, 1986-1987."

Now that the ATC Program is two years old, a number of the Section Staff and ATCs have been taking a long look at the program. The experience in the MD-DC Section has been rather disappointing because there have been few requests for technical assistance. This can be interpreted in either of two ways: either the ham community has ceased having technical problems or it is unaware of the ATC Program. Informal contact with other nearby sections in the Atlantic Division indicates that their experience has been similar to that of the MD-DC Section.

Admittedly, the "FREDie" publication has not been a "best seller" on the ARRL bookshelves, and it's doubtful whether more than a small portion of the ham community is aware of it - let alone familiar with its contents. It is a valuable source of administrative and technical information for those who make the effort to become familiar with it. But it is not the only source of information about the ATC Program. QST also carries short items on the ATC Program --- in very small print, I might add --- along with other ARRL administrative information. Again, these items appear to have been overlooked by the community.

(Continued on page 18)

ARRL ATC PROGRAM - Continued

All of us "volunteered" for the appointment with the motive of being helpful to other hams on an "as-needed" basis in the areas of our technical interests. All of us continue to feel this way. We can't guarantee to solve every problem, but we'll do everything humanly possible to help you with whatever difficulty is bothering you! In an effort to give the ATC Program a bit more publicity in the D-DC area, we have updated the current listing of ATCs for the section, and provide it below for information.

ARRL Assistant Technical Coordinators
MD-DC Section, Atlantic Division
(Revised 14 January 1988)

Charles Anderson, NF3X
2302 Keener Road,
Hagerstown, MD 21740
(301) 733-3061 (Home)
Interests: EMI, RFI, lightning protection, loop antennas.

Herbert Ley, N3CDR
P.O. Box 2047,
Rockville, MD 20852
(301) 942-4861 (Home), 340-0484 (Work)
Interests: Wire antennas, transmission lines, QRP, home-brew gear, 40 Meter CW

Patrick Gormley, KK3F
5303 38th Avenue, #4
Hyattsville, MD 20781
(301) 927-3467 (Home)
Interests: Computers in ham radio, TVI, HandiHams, antennas

Kenneth Stuart, W3VVN
48 Johnson Road,
Pasadena, MD 21122
(301) 437-1758 (Home), 787-3748 (Work)
Interests: Care and feeding of batteries, analog circuit design

Harold Wood, W3HII
2002 Rockwood Road,
Silver Spring, Md 20910
(301) 589-4171 (Home)
Interests: RTTY, AMTOR, PACKET, computers in ham radio, weather satellites

Herb Dye, Jr., NC3V
219 East Street,
Frostburg, MD 21532
(301) 689-6270 (Home) 726-5235 (Work)
Interests: Wire antennas, code & theory, NTS, message handling.

A DIAMOND IS A HAM'S BEST FRIEND

We have been saying that the ARRL Diamond is a ham's best friend, but now comes a report that the diamond itself may prove to be our best friend. Diamonds have the peculiar property of being an excellent electrical insulator while, at the same time, being the most efficient known conductor of heat. This unique combination makes diamond potentially invaluable for use in the next generation of computers.
Now comes word that Dr. J. Wayne Rabalais, a professor of chemistry at the University of Houston, and his colleagues have developed a technique to deposit thin films of carbon that have the properties of diamonds, yet the films are only a few atomic layers thick. Current technology restricts computer design to single-layer components, mostly because of heat dissipation problems. Coating heat-sensitive elements with diamond films would allow them to be stacked in three-dimensional arrays. This technique offers many applications in information storage, optics and other areas of microelectronics.

From Caren's World,Feb. 1988)
Central Arkansas Radio Emergency Net Newsletter

FOUNDATION FOR AMATEUR RADIO

Volunteer Examiner Cooperative

Nancy Draheim - NK4U
3513 Old Post Road, Fairfax, VA 22030
(703) 691-0078

SCHEDULE OF EXAMINATIONS
1988

Mar. 5 University of Maryland ARC (College Park, MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld - NF3I (301) 963-4008

South Peninsula Amateur Radio Club (ARRL exam)
Contact: Sid Evans - N4IIC (804) 851-5573

Mar. 13 Montgomery/Montgomery College/Rock Creek ARC/Washington Adventist (Columbia Union College, Takoma Park) (ARRL VEC)
Advanced reservations requested.
Contact: John Muller, W3QF (301) 564-0178.

Mar. 19 Laurel Amateur Radio Club (Laurel, MD). Tests normally held on 4th Saturday of each month at Maryland Radio Center. Advance resistration reqested. Walk-ins only on space available basis. (Laurel VEC)
Contact: Frank - K3LDE (301) 498-2213 or Emmett - N3BOR 674-4080

Summit ARC (Catonsville, MD) (Laurel VEC) Walk-in
Contact: Tony Chancey, N3ECR (301) 922-4747

Richmond ARC (Richmond, VA) (ARRL VEC) Walk-in
Contact: Ron Bolton - WU4G (804) 798-5191

Mar. 20 Baltimore Radio Amateur TV Society (Baltimore, MD) (Laurel VEC)
Contact: Steve Silberman, K3RMX (301) 578-8527

Mar. 26 Baltimore Amateur Radio Club Hamfest (Timonium, Maryland) (Laurel VEC) Maryland State Fairgrounds. Pre-registration requested. Mail completed 610 plus copy of current license to LARC, POB 3039, Laurel, MD 20708.
Contact: Jim Kessler (301) 953-1065

Mar. 31 Montgomery/Montgomery College/Rock Creek/Washington Adventists ARCs (Takoma Park, MD) (ARRL VEC) Walk-in
Contact: John Muller, W3QR (301) 564-0170 or Boyd Nelson 434-0934

Apr. 2 University of Maryland ARC (College Park, MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld - NF3I (301) 963-4008

Apr. 4 Williamsburg Area Amateur Radio Club (ARRL exam)
Contact: Andrew Swanson - WJ4X (804) 253-2811

Apr. 21 Baltimore ARC (Towsen, MD) (Laurel VEC) Walk-in
Contact: Ron Derencz (301) 765-2843

See next page for additional listings and information

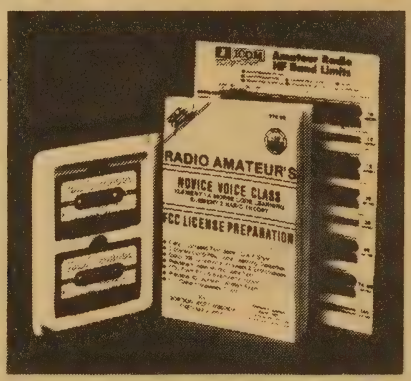
IMPORTANT NOTES: Certificates of successful completion for theory tests are not always accepted. Check with the contact person for the exam you wish to take. While most examinations are offered on a walk-in basis, preregistration is desirable in all cases.

All examinations require that you submit:
Completed FCC Form 610, Copy of your current Amateur Radio license (bring original license).

For ARRL VEC exams, you must also submit a $4.55 check made out to ARRL/VEC
For Mountain VEC Exams, Novice tests are free. All others are $2.00
For W5YI VEC Exams, the cost is $4.35.
For Laurel VEC exams, no charge.

This schedule of Examinations can be found each month in Auto-Call Magazine

Gordon West's
21 DAY NOVICE



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CODE TAPES • 112 PAGE BOOK • BANDS CHART • ALL FCC FORMS
SAMPLE TESTS • HOTLINE • PLUS MORE!

STEREO THEORY TAPES COULD BE SUBSTITUTED FOR THE BOOK FOR THE VISUALLY IMPAIRED. PLEASE ASK US.

- $70 in equipment certificates from ICOM, KENWOOD, & YAESU.
- Ham radio equipment "Wish Books". • Laminated world map.
- ARRL membership forms. • Free CQ Magazine coupon.
- Hotline for student questions. • Dealer distributor list.
- School pen. • Course completion certificate. • License holder.

GORDON WEST RADIO SCHOOL
2414 College Drive • Costa Mesa, CA 92626 • (714) 549-5000

Training Classes

Robert Milligan - KI4MB
6608 N. 18th Street Arlington, VA 22205
Phone (703) 533-0650 (Home), (703) 534-1319 (Recorder)

This column lists all known Amateur Radio license courses in the greater Washington area and the name and phone number of contact persons at participating clubs. Please keep KI4MB advised of any changes so we can keep this list up-to-date.

Novice Classes, Sterling Park, Virginia. Sponsored by Sterling Park Amateur Radio Club and Loudoun County Department of Parks and Recreation. Starting Thursday, March 10 and meeting every Thursday at 7:30 - 9:30 p.m. for 12 weeks. No charge. Registration mandatory, classes limited to twenty. For additional information and registration call Art Nevins at (703) 437-9382.

Tech/General Classes, Laurel, Maryland. Sponsored by Laurel Amateur Radio Club. Classes start February 1. They will be held at Palotti High School on Monday nights from 7:00 - 9:00 p.m. for 10 weeks. Instructors will be W3GFS (theory), KD7JZ (rules & regs) and W3DQI (substitute teacher). Code practice will not be offered during the class. Contact Frank - K3LDE, (301) 498-2213 or Emmett - N3BOR (301) 674-4080.

Novice Classes, Davidson, Maryland (near Annapolis). Starting February 6. Sponsored by the Anne Arundel Radio Club. Classes will be held on Saturday mornings from 9:30 a.m. to Noon at the Davidson Family Recreation Center. For information and registration Call Tony Young, WA3YLO (301) 262-1917.

Novice Classes, Woodbridge, Virginia. Starting February 11. Meeting every Thursday at 7:30 p.m. at Our Lady of Angels Church (opposite Marumsco Plaza Shopping Center. For information call Tim Farrell - AF2T (703) 590-5226

GENERAL INFORMATION

Alexandria Radio Club - contact John - WZ4A (703) 820-3044
Anne Arundel - contact Tony Young - WA3YLO (301) 262-1917
Baltimore ARC - contact Ralph Huber - KA3HAM (301) 321-5748
Baltimore Radio Amateurs TV Society (BRATS) - Contact Bill Self (301) 669-0149
Chaverim, Inc. - Contact Bob Teitel - W3IDT - (301) 654-3484
Frederick ARC - contact Steve Bauman - W3FOA - (301) 662-4552
Goddard ARC- contact Chris Spinolo - KA3RTC - (301) 776-5710
Laurel ARC - contact Frank Treadwell - K3LDE (301) 498-2213
MADRAS - contact Renee Culver - KC3NG (301) 949-9220
Montgomery County Department of Recreation - (301) 468-4050
Mount Vernon ARC - Contact John Forrest - WZ4A (703) 820-3044
Rock Creek ARA - contact Walt Ramsey - AK3B (301) 949-3954
Shenandoah Valley ARC - contact Walt Quitter - NC4B (703) 869-5241
Southern Maryland ARC - Contact Bob Curran - KA3GCC (301) 627-3040
Sterling Park - contact Art Nevins - WA4NTP (703) 437-9382
Tri-County ARC - contact Al Sines - WA3QGA, P.O. Box 710, College Park 20740
Vienna Wireless - contact Dave Guffy - (703) 385-6608
Washington Adventists - contact Henry Miller - W3BWN (301) 474-7376
Woodbridge Wireless -contact Tim Farrell - AF2T (703) 590-5226

This column is published in each issue of the Auto-Call magazine.
Local clubs are urged to list their training programs
far enough in advance for effective publicity.

Coming Events

VIENNA WINTERFEST
Sunday, February 28
Vienna Community Center, 120 Cherry Street, Vienna Virginia.

YORK WINTERFEST
Sunday, March 6

York, Pennsylvania - York Winterfest (Ham/Computer) will be held Sunday, March 6 at the Dover Firehall. Food, refreshments. Inside tables $10.00. Registration $4.00. Tailgating free. Spouse and children under 12 also free. Blacktop parking. General Admission 8:00 a.m. Talk in on 146.37/97 and 147.93/33. Advanced information and registration: YORK WINTERFEST, 5112 Roller Road, Millers, Maryland 21107.

ANNUAL SPRING BANQUET
Formerly know as the QCWA Old Timers' Dinner
Saturday, March 19

The Annual Spring Banquet for area Amateurs, at the Lanham Ramada Hotel March 19. This is an event you won't want to miss. For details, see the ad on page 25.

VIRGINIA QSO PARTY
March 19-21

The fabulous VIRGINIA QSO PARTY is sponsored for the 13th consecutive year by the Sterling Park Amateur Radio Club, Sterling Park, Virginia. Starts 1800 UTC Saturday, March 19, Ends 0200 UTC Monday, March 21. For details see ad on page 23.

BALTIMORE AMATEUR RADIO CLUB HAMFEST
March 26-27

Greater Baltimore Hamboree and Computerfest, Maryland State Fairgrounds, Timonium, Maryland. Hamfest gates open 8:00 a.m. both days. VE exams Saturday, Saturday night events. For information, call (301) HAM-FEST. See ad on page 42.

ROCHESTER HAMFEST
May 20-21

IMRA VIDEOTAPE

A half-hour videotape about the work of the International Mission Radio Association (IMRA) is available on loan to any ham or ham club that wishes to view it. The tape, entitled "Making Contact," was professionally produced at St. John's University in Jamaica, New York and has been aired on two national satellite systems. Contact Fr. Michael Mullen, C.M., WA2KUX, President of the IMRA, St. John's University, Jamaica, NY 11439.

1988 Virginia QSO Party

Starts: 1800 UTC Saturday, March 19, 1988
Ends: 0200 UTC Monday, March 21

The fabulous VIRGINIA QSO PARTY is sponsored for the 13th consecutive year by the Sterling Park Amateur Radio Club, Sterling Park, Virginia. Engraved award plaques will be awarded to the top scoring stations: HIGH VIRGINIA SINGLE OPERATOR (fixed location, multi-mode), sponsored by K3RZR and AA4GL; HIGH VIRGINIA CW ONLY STATION, sponsored by N4MM; HIGH VIRGINIA MOBILE STATION sponsored by the Electronic Equipment Bank (EEB); HIGH VIRGINIA NOVICE/TECHNICIAN AWARD, sponsored by KW4I; and the HIGH OUT-OF-STATE STATION, sponsored by the Sterling Park ARC. Certificates will be awarded to the winner of high QSO points for Virginia Counties, States, and DX countries.

EXCHANGE: QSO Number (sequential, beginning with 001), and QTH (county for Virginia stations, or state, providence, etc. for others.)

SCORING: One point per Voice QSO, two points per non-voice QSO (CW, RTTY, AMTOR, SSTV, PACKET); no cross-mode QSOs. Virginia stations multiply QSO points total by the sum of states, DX countries, Canadian provinces, and Virginia counties worked. The same station may be worked on each band once in each mode. Virginia mobiles must sign as mobile and may be worked in each new county they operate for both QSO and multiplier credit, regardless if they were previously worked on the same band and mode in another county. Virginia mobiles may count fixed stations only once as multipliers. Virginia stations vying for CW ONLY AWARD will have only CW contacts and multipliers counted.

FREQUENCIES: CW - 60 kHz up from the low end of the 10, 15, 20, 40, and 80 meter bands; anywhere on 160 meters and Novice CW bands. SSB - 3939, 7230, 14,285; 21,375; 28,375; 28,575; and anywhere on 160 meters, except normal windows.

LOGS: Each entry must include name, call sign, mailing address and must also indicate the Virginia county (or state or province) of the station's operation. Follow standard ARRL contest guidelines. Indicate each new multiplier as worked and include a summary sheet with the log. Virginia mobile stations must log entries by county operation and must clearly indicate on the entry sheet that they operated as mobile. Indication must be on your log if you are a Novice or Technician vying for High Virginia Novice/Technician Award. The decision of the SPARC chairperson is final regarding acceptance of log format and information.

MAILING DEADLINE: Entries must be postmarked by April 1, 1988, and received by April 10.

MAIL LOGS and entries to: VIRGINIA QSO PARTY
c/o Abbey Ray, N4QIV
1007 Tuscarora Drive
Leesburg, VA 22025

SPONSORED BY STERLING PARK ARC

The Foundation For Amateur Radio

Washington, D.C.

NEWS RELEASE

1988 Scholarships Offered

THE FOUNDATION FOR AMATEUR RADIO, INC., a non-profit organization with headquarters in Washington, D.C., plans to award twenty-eight scholarships for the academic year 1988-89 to assist licensed Radio Amateurs. The foundation, composed of fifty local area Amateur Radio Clubs, fully funds six of these scholarships with the income from grants and its annual Hamfest. It administers without cost to the donors, seven (7) scholarships for the Quarter Century Wireless Association, two (2) each for the Dade (FL) Radio Club, the Baltimore (MD) Amateur Radio Club, the Department of State Amateur Radio Club, the Amateur Radio News Service, the 10-10 International Net, the Radio Club of America and one (1) each for the Richard G. Chichester Memorial, the Young Ladies' Radio League, the Columbia (MD) Amateur Radio Association, the Frederick (MD) Amateur Radio Club and the Vienna (VA) Wireless Society.

Licensed Radio Amateurs may compete for these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled or have been accepted for enrollment at an accredited university, college or technical school. Some of the scholarships require the holding of at least an FCC GENERAL Class license or equivalent. The awards range from $500 to $2000 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs.

Additional information and application forms can be requested by letter or QSL card, postmarked prior to May 31, 1988 from:

F A R Scholarships
6903 Rhode Island Avenue
College Park, MD 20740

The Foundation for Amateur Radio, incorporated in the District of Columbia, qualifies as a non-profit organization under Section 501(c) (3) of the Internal Revenue Code of 1954. It is devoted exclusively to promoting the interests of Amateur Radio and those scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service.

AFFILIATED

32nd
Annual Spring Banquet

formerly QCWA "Old Timers' Dinner"
cosponsored by
Washington, D.C. Chapter QCWA and
Foundation for Amateur Radio

FOR ALL AREA AMATEURS

19 March 1988

Ramada Hotel—Lanham
5910 Princess Garden Parkway -- (301) 459–1000
(Capital Beltway & Maryland Route 450)

Keynote Speaker

Astronaut Dr. John-David Bartoe – W4NYZ
Chief Scientist, NASA Office of Space Stations

Awards & Recognitions

Presentation of FAR "Ham of the Year" Award

Make your reservations early. Table assignments are made in the order in which reservations are received; so early applications take the best seats. Club or group reservations will be available for tables of 8 or 10. Select a spokesman for your group and let him order the reservations. Deadline for advanced reservations is March 12.

ADVANCED RESERVATIONS -- $22.50 PER PERSON
Tickets at the door, without reservations -- $25.00
This includes dinner, gratuity, tax, and free parking.

PICK UP YOUR TICKETS AT THE DOOR THE NIGHT OF THE DINNER

Tickets will be mailed only upon request and receipt of SASE

No Refunds on "no-shows"

CASH BAR OPENS 6:00 P.M. DINNER IS AT 7:00 P.M.

For further information
Contact Elizabeth Zandonini – W3CDQ
(202) 363–7400

Make remittance payable to:
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1013 Noyes Drive
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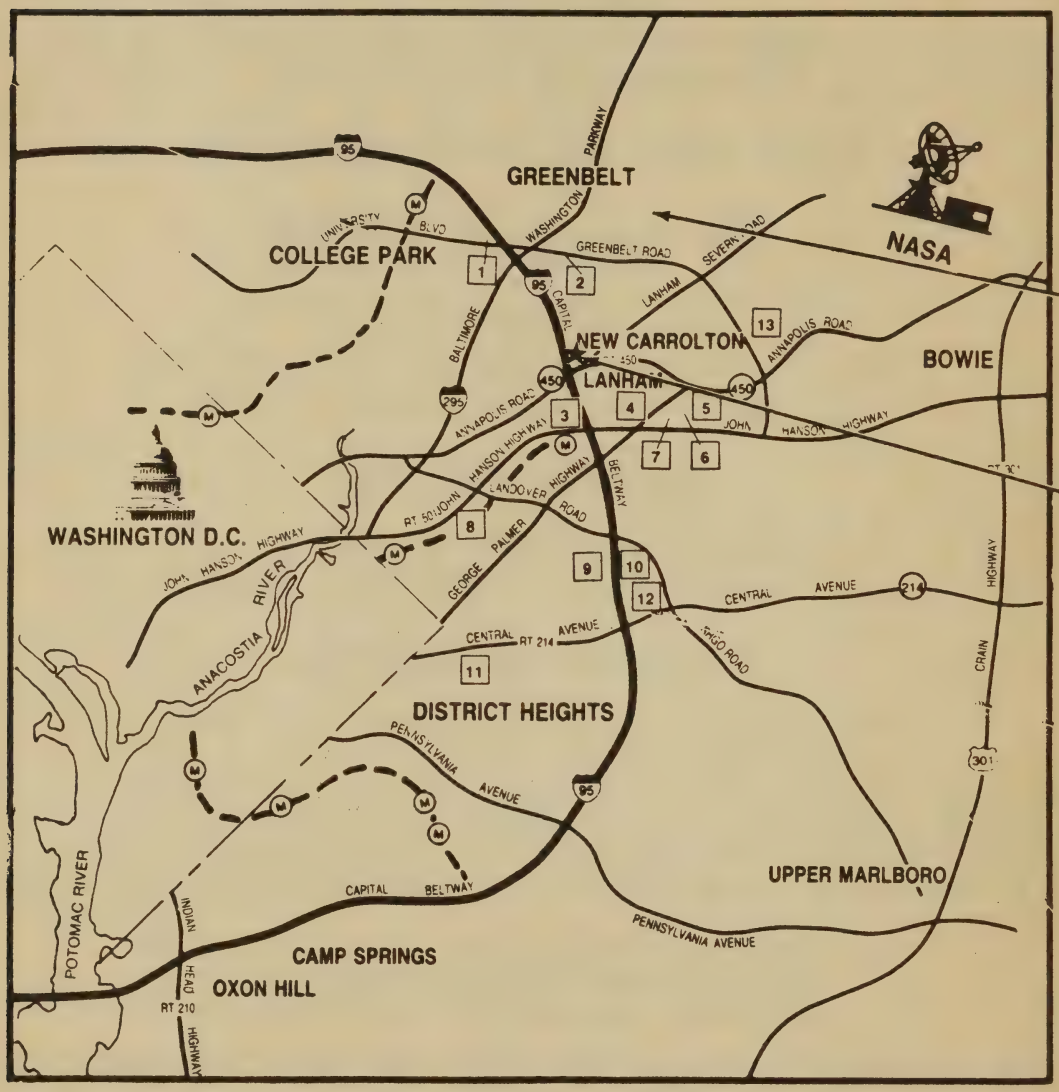
LOCATOR



Coming from the North on the Beltway, take first exit to 450 East. Go thru blinking light. Take first left at traffic light - onto Princess Garden Parkway. Enter Ramada Inn parking lot on left.

Coming from the South on the Beltway, take first exit to 450 East. Move immediately to far left (you have only a short block before turn). Turn left onto Princess Garden Parkway. The entrance to the hotel parking lot is between a large, gold windowed office building and the Ramada Inn.

Annual Spring Banquet Registration

March 19, 1988
Lanham Ramada Hotel

Enclosed is $_____ for _____ reservations at $22.50 each.

Name _____ Call _____

Address _____

City _____ State _____ Zip _____ Phone_____

My menue choice: Prime ribs of beef_____ Crab Imperial _____
Special Vegeterian plate _____ or special diet _____

I would like to be seated with: the _____ group.
Non-smoking _____ Smoking _____ section.

Group seating is available for tables of 10 people.

Please reserve Group Seating for the _____ group,
Payment is enclosed _____ Payment will be mailed by individuals _____
Names to be included in the group are listed below.

I plan to stay overnight at the hotel _____
The Lanham Ramada is offering special room rates of $57 per night (up to 4 people).
A map showing directions will be published in the March issue of Auto-Call.
Make reservations directly with the hotel and ask for the FAR rates.
Phone 459-1000

Tickets are to be picked up at the door.
Tickets will be mailed only upon request and receipt of SASE
No refunds on "no shows"
If you have to cancel, phone (202) 363-7400
at least one day in advance

DEADLINE FOR RESERVATIONS IS MARCH 12

MAKE CHECKS PAYABLE TO
"Washington D.C. Chapter QCWA"

Mail to
1013 Noyes Drive
Silver Spring, MD 20910

WINTERFEST™

SUNDAY
FEBRUARY 28

Vienna Community Center
120 Cherry Street • Vienna, Virginia

For more information and table reservations
Write to

VIENNA WIRELESS SOCIETY, INC.
Attention: WINTERFEST
P.O. Box 418
Vienna, VA 22180

Vienna Repeater 146.685/.085

THE HOME OF WINTERFEST™

Metropolitan Communications Network Radio Club

Meetings: Quarterly, on the second Sunday of the month. W.A.T.A.'s Community Meeting Room, 4729 14th Street N.W. (at Decatur Street), Washington, DC - unless otherwise announced.
Repeater: WB3DBU/R, 52.250 MHz in; 53.250 MHz out. Accessible on 144.950 MHz in the simplex mode.
On-the-air: Saturdays at 1900 hours.
Mailing: c/o Bob Sporn - WA3GGO, 9927 Cottrell Tr, Silver Spring, MD 20903-
Information: Bob Sporn - WA3GGO (301) 434-1719

This year's first meeting will be held on Sunday, March 13, at 1400 hours. Some members still owe 1988 dues. Please see Dick Logan - WB3EPX, our treasurer, or mail them to his QTH. Auto-Call renewals will be executed at the meeting.

It is with deep regret that we have to announce the passing of Dudley D. Watts - N4KEU. Even while he was ill, his interest in ham radio continued, unabated, and he planned to expand his interests into ATV. (See Silent Keys in February Auto-Call.)

Two additional sites are being explored, in which to set up satellite receivers.

THE SUNDAY MORNING COFFEE NET (6 METER AM) ON 50.4 MHZ AT 0900. Under the capable hands of the Weaver Brothers, Richard - KA3BTD and David-KA3PQS, as Net Control, our Sunday morning nets have increased to 10 and 12 participants and the lively banter has continued for over an hour.
Sick Call: We trust that Rudy Williams-W3UBZ, Cliff Brommer - KA3KEL, and Tommy Noeman - KA3MKC have recovered long before this month's report goes to press.

MARYLAND FREE STATE SIX METER SIDEBAND NET: SUNDAYS AT 1900 HOURS ON 50.125 MHZ. Joe Saunders-K3UAL had an unusual QSO with an engineer from an oil drilling rig in the Indian Ocean. The rig, measuring 750 feet, can drill to a depth of 27,000 feet! The ham was working from the island of Mauritius. Paul Weaver - KA3RXW, who recently became a ham (the harmonic of Camille - KA3RUR and David - KA3PQS) is to be congratulated upon winning a scholarship.

To quote the late Gus Ferguson-WA3FVB, join our nets to "upgrade your social standing"! Hi!

Bob - WA3GGO

FCC REPORT Continued

THE LATEST CALLS ISSUED FOR THE STATESIDE, ALASKA AND HAWAII CALL AREAS WERE: AS OF JANUARY 1

EXTRA	ADVANCED	GENERAL TECH.	NOVICE
NO1H	KC1HN	N1FKK	KA1RKO
WC2Y	KE2DV	N2HUN	KB2EWM
NM3W	KD3FY	N3FYD	KA3SOL
AB4FO	KK4VV	N4RVG	KC4CXJ
AA5EE	KG5GP	N5LXI	KB5FCD
AA6GH	KJ6CJ	N6RDW	KB6VKQ
WI7Y	KF7GC	N7KGT	KB7DQT
NZ8T	KE8PI	N8JAS	KB8DSH
NW9H	KE9HU	N9HCM	KA9ZYO
WEØB	KEØSI	NØITS	KBØBQW
HAWAII	AH6IT*	NH6OD	WH6BWB
ALASKA	AL7JO*	NL7LW	WL7BQC

* Extra class also assigned from this group

END-OF-MONTH LICENSE TOTALS

CLASS	NOV 1987	DEC 1987
EXTRA	43,608	43,902
ADVANCED	98,383	98,610
GENERAL	114,396	114,398
TECHNICIAN	92,618	93,466
NOVICE	82,296	83,013
	---	---
TOTALS	431,301	433,389

**** Gf ****

Power to Go

By Gil Frey, Jr. K4JST

One problem that all ARES members are sure to face is having to install a full-sized mobile rig in someone else's vehicle. A quarter wave mag mount takes care of the antenna problem, but what about power? A cigarette lighter adapter is handy, but that can create problems. The last bike race I worked, the cigarette lighter was in use powering a tape recorder for one of the face officials. If you ever have to travel in a state or federally owned vehicle, don't expect to even find a lighter jack. A long patch cord with alligator clips may allow you to hook on to the vehicle battery under the hood but even that can be a real problem, as some of our ARES members found when they had to be dispatched in National Guard vehicles: 24 volt systems!

The best solution is to bring your own battery along. The problem is finding a suitable battery that is both large enough in capacity and small enough in size and weight, plus fully safe. Over the years, I have tried and discarded several types of ARES batteries. The first was motorcycle battery. This was small enough, but it did need to be kept upright. The real problem was that this style battery does not have much capacity (despite its weight) and is extremely prone to damage to the plates if you discharge it very much below full charge. I tried tow of these and both lasted less than a year. (They were brand new Sears Die Hard motor cycle batteries). The next battery I tried was a deep cycle lawn and garden battery. This battery had about 30 amp hour capacity and withstood heavy discharge. The problems with it included having to special order it (the common lawn and garden battery is not deep discharge), high cost (over $55), weight (about 25 pounds) and a very real risk of spilling battery acid if tipped over. I got about two years out of this battery.

The next battery that I used was a 25 amp hour Gell cell. All Gell cells are deep discharge construction. They are totally sealed (though they can vent gas under heavy charging) and, of course, they can not spill electrolyte. The problem is finding a suitable size/weight/source/price. The 25 amp hour battery is a little too big and heavy (20 pounds) to be easily carried around and, at $50, just a little expensive for occasional use. The big problem is where to purchase. I can tell you that the local burglar alarm shop is not the place to look. I have seen 1.2 amp hour Gell cells listed at $35 in catalogues (think the burglar would do well to start stealing batteries at that price!) Buying used Gell cells at a hamfest is an exercise in frustration (they may take a charge, but will they hold one?). I am still using the 25 amp hour Gell cell after three years, but would not buy another one if I knew where to get one.

I do think I have finally found the ideal ARES battery. It is a 15 amp hour Gell cell made by Yuasa. It is tall and slender so it should fit into a case that you could carry with a shoulder strap. The terminal are large, rugged bolt style (no flimsy clip to corrode or break off) and the weight is 13 pounds (that is why I mention the shoulder strap). The really nice surprise is the price - $24.95. The source is American Design Products, 62 Joseph Street, Moonachie, NJ 07074, 800-524-0809. They ship quickly. If you need a cell to power your TNC or some other small piece of equipment, they have a 4.5 amp hour cell for $7.95.

How do you charge a small Gell cell? A half amp or 1 amp motorcycle battery charger works find. (The sell as low as $6 in the auto parts shops.) If you want to float charge (i.e. use it and charge it as the same time), the smart charger described in June 87 QST (board and chip available for $15) makes a good winter construction project.

Gil Frey, Jr., K4JST
EC, Charles City County, VA

Laurel Amateur Radio Club

A Volunteer Examiner Coordinator

Address:	P.O. Box 1436, Laurel, MD 20707-0951
VEC Address:	P.O. Box 3039, Laurel, MD 20708-0039
Meetings:	Second Wednesday, 2000 local, Informal meeting.
	Fourth Wednesday, 2000 local, Business Meeting, Capitol College.
	Other Wednesdays, 2030 local - 147.54 MHz
Information:	Frank - K3LDE (301) 498 2213 or Emmett - N3BOR (301) 674-4080

After who knows how many years, Jim - KQ3S announced to the club that he was resigning as chairman of the Laurel VEC Committee. Now that he's retired, he wants to see more of this great country of ours and, due to his duties as chairman, he couldn't do it. He is passing the reins to Al - WA3QGA. The effective date is still in the air but Al has a lot of learning to do. Jim has been the chairman of the LARC VEC since the FCC turned over the testing responsibility to the 28 or so VECs throughout the nation back in 19??. He has been a positive driving force within the VEC community. He was present at most FCC sponsored national VEC meetings, and as the saying goes, "When KQ3S talks, other VECs listen!" He is a respected member of the VEC community and will be missed. Thanks, Jim.

LARC held its first monthly test session at Maryland Radio Center on January 23. Twenty-three people showed up and, between them, took 41 elements. Testing will be held on the 4th Saturday every month starting at 1000. Due to the size of the library at MRC, only 20 people can be tested during any one session. Therefore, advance registration is necessary. Go to MRC and sign the list or call Jerry at 725-1212. Walk-ins may be accepted on a very limited basis (depending on how many of the 20 don't show up.) Since the March testing session will fall on the BARC Hamfest (where LARC is also providing VE Testing), the exam at MRC for this month will be on the 3rd Saturday instead of the 4th Saturday.

As mentioned above, LARC will also be testing at the BARC Hamfest at Timonium on March 26th. KD3S will lead the show, braving the public and handling all of the administration associated with the test session while W3GFS will head up the exam team. If you attend the test session be sure you thank the LARC examiners for their time and effort. They will appreciate it!

LARC petitioned the FCC and had approved a request to act as a 4th call area VEC as well as continue to be a 3rd call area VEC. If you are an Amateur Radio Operator located anywhere in the 3rd or 4th call areas, you can be a LARC Volunteer Examiner. You don't have to have a regular testing schedule (i.e. once a month), you can test whenever you want (as long as it is not a "private" exam session). You can test during Field Day (we always have people dropping by our field day site, and we've had people go from nothing to Advanced), at a special event station (where the public had access to your station); or if your local hamfest doesn't offer VE testing, you can do it for them. All you need is an Advanced or, preferably, am Extra class license. If you are interested, contact us at the VEC address listed above. Laurel does not charge for any VEC exams.

LARC's General/Technician class began on 1 February with 13 people in attendance. There were two who had never been licensed, one trying to get his license back after letting it expire, and six or so were referred from the Anne Arundel Club. John - W3GFS headed up the instructor team, assisted by Tim -KD7JZ and Eric - KA3MFM (son of W3GFS). Pud - W3DQI, the back-up instructor, was AWOL!. The class promises to be a lot of fun. (Continued)

Did you get on the Novice bands during the Novice Roundup last month? This is probably the easiest way for a Novice to get on the air! They know what kind of exchange to expect (signal strength and ARRL Section) and therefore don't have to worry about what to say in a QSO. (Let them get on the air first and worry about lengthy QSOs later).

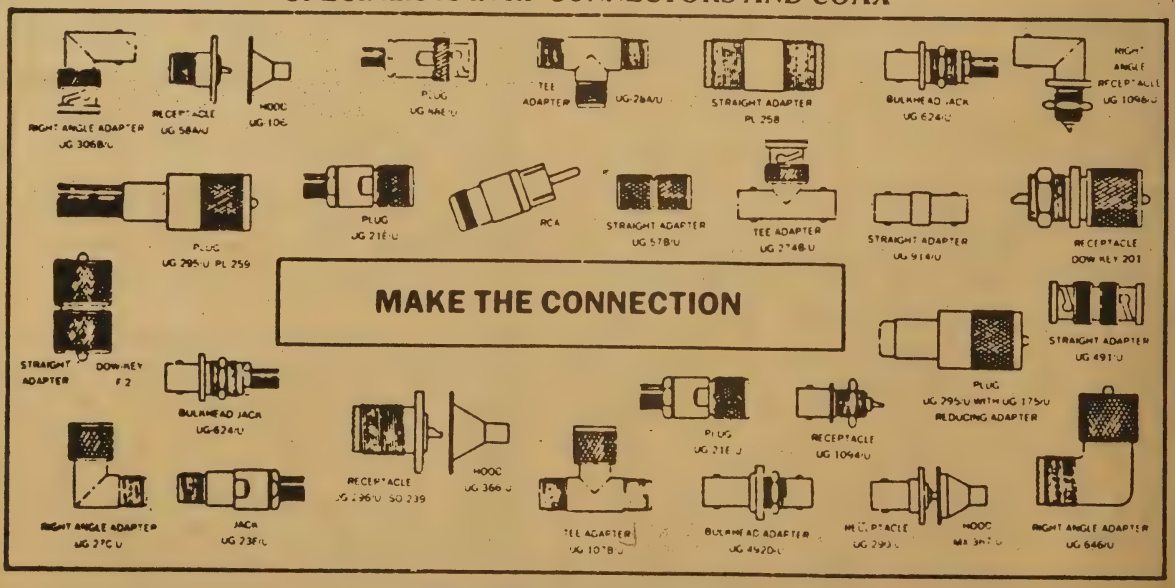
I enjoy that contest more than any other during the year (and jot just because it runs for a whole week, allowing me to operate around my schedule at work and at home). If you didn't get on this year, watch out for it next year. It runs from the last weekend in January until the first weekend in February. But don't want for the NR, get on the Novice bands whenever you have some free time (and not just the phone section on 10 meters). A Novice operator can't get experienced unless he/she talks to experienced operators. Remember, most of us were Novices at one time!

Have you thought about being a merit badge counselor for the Boy Scouts? You and I as hams can provide scouts the opportunity to earn the Radio merit badge as well as the Electronics merit badge. Contact your local District Scout Office. (Also see QST, February 1988, pp 47-48). Since learning another form of communication is part of a scout's advancement (Morse code, flag signals or hand signing) they are a perfect pool of potential hams. And don't forget the ARRL sponsored Jamboree On The Air. Catch their interest, find them a Novice class and watch them have fun!

Emmett - N3BOR

The R.F. Connection

"SPECIALISTS IN RF CONNECTORS AND COAX"



The R.F. Connection
213 N. Frederick Ave., Suite 11, Gaithersburg, MD. 20877
301-840-5477

Washington Adventists Amateur Radio Assn.

Meetings: The last Sunday of every month at 4:00 p.m.
Sligo SDA Church's office building, 7710 Carroll Ave., Takoma Park, MD
Net: Every Sunday at 8:30 p.m. on Green Mountain Repeater Assn. repeater 146.28/88
Information: Henry Miller - W3BWN Home phone (301) 474-7376 Work 286-9079.

During the last few months we have been quite active. Since September the monthly meeting speakers and topics have been a presentation on MADEAS' Tangier Island DXpedition to begin. For October, Art Berman - N3EKC showed us a videotape of his recent trip to Africa, including his son's station in Swaziland. Ruth Phillips from Metrovision gave a fascinating presentation on fast-scan amateur television in November. We started 1988 by having Tony Young-WA3YLO from the Maryland Slow Net discuss traffic handling.

The speaker planned for the February meeting is Bruce Coleman - W3YVV who will discuss station grounding. In March, Carroll Chickering and Henry Miller are scheduled to give a presentation on test equipment. We are trying to find a good speaker on Hidden Transmitter Hunting for a future program. If you can offer any prospect, call W3BWN.

We meet in Takoma Park on the last Sunday of the month at 4:00 p.m. Visitors are always welcome to attend our meetings. For information, contact Henry Miller - W3BWN at 474-7376.

The radio retreat for the first day is our annual retreat in Boonesboro, MD at the end of May or the first part of June.

On December 12 we had our annual Christmas party at Mrs. Swan's. We were well fed, as usual. This year the program was planned by Laurie Wilson - N3EWK-and she did a great job.

With the assistance of Blossom Engen-KA3NNE, she wrote a parody of the Twelve Days of Christmas, which we all sang. It was very cute, and related to Amateur Radio. Here are the important deviations from the usual text:

On the first day of Christmas my true love gave to me:
A weekend for the radio retreat,
A 2-meter rig,
Three Nicad packs,
Four calling hams,
Five-----code-----cassettes,
Six DX contacts,
Seven super sunspots,
Eight Amplifiers,
Nine yards of coax,
Ten tons of tower,
'Leven lanky dipoles,
Twelve high pass filters.

Believe me, it was a lot of fun! Since the current rendering of the song came from the sixteenth century, I am not worried about any copyright infringements.

Henry C. Miller - W3BWN

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Woodbridge Wireless, Inc.

Meetings: 3rd Tuesday of each month, at 7:30 p.m.
Springwood Community Center, Corner of Springwood Drive and Chauncher Court, just West of Woodbridge Airport.
Repeater: WB4FQR/R 147.84/24 and 449.9/444.9]
Nets: Mondays, 8:00 p.m. local (0100 UTC) 147.84/24
Wednesdays, Slow CW at 8:00 p.m., 21.164 MHz
Saturdays at 10:00 p.m. - in new 10 Meter Novice band 28.7640 MHz SSB
Mailing Address: P.O. Box 112, Woodbridge, VA 22194

It is with sadness that the Woodbridge Wireless notes the passing of Ted Shaeffer, K3ULQ. For 15 years Ted directed the club's training program, introducing hundreds of people to amateur radio. He had that rare talent of spreading his enthusiasm and a ray of sunshine to all he met. He will be missed.

Ted's legacy continues, though. The Woodbridge Wireless novice class is in full swing Thursday nights from 7 to 9 PM at Our Lady of Angels church school. It started the 11th of February. New students may be able to join the class the third week. After that, there's probably too much catching up to do.

The club is upgrading the WB4FQR digipeater to run the Net/ROM protocol. This will make WB4FQR a dual-port digipeater which will be able to translate packet signals from 145.01 to 145.07. When installed, it is likely that the bulletin board at K4NGC will be moved from '01 to 09 to provide greater access to Manassas area hams. Incoming traffic may be sent on either '01 or '07. K4NGC-1 will remain active on 145.07. This provides another alternate to K3AF (DCA) as a digipeater and packet node.

The WB4FQR repeater has been receiving interference from a malfunctioning commercial communications transmitter. After some sleuthing, the transmitter has been located and the owners informed. The owner is awaiting parts to repair the transmitter. Meanwhile, the interference is growing stronger and is capable of blanking out local hand-held signals and some mobile signals as well. Hopefully by the time you read this, the problem will have been solved.

73 de WJ4M

EXPENSIVE RFI

The computerized control system that operates the new Liberty Bridge in Bay City, Michigan was not designed for RFI immunity. Now it has been found that CB operators passing over the bridge and talking to a "good buddy" on their transceiver may cause the bridge to open. Even walkie-talkies have the potential to cause the problem, according to a report by the Bay City Times.

The opening of the $28 million bridge, already a year behind schedule, will not be further delayed but corrections will be made at a later date. The modification needed is the installation of about $35,000 worth of isolation transformers. Since their absence is recognized as a fault in the overall design, the contractor will be picking up the major part of the tab. City officials claim the installation of anti-RFI isolation transformers should have been mandatory to "assure safety and proper operation of the bridge."

(Information taken from PHD News 1/88)

Maryland Emergency Phone Net

Meetings: EVERY NIGHT, 3920 kHz, 1800 Local
Net Manager: N3EGF; Secretary: KA3CSM; Treasurer: W3FA
Directors: K2EB, K3ONU, KC3FK, W3LDD (Alt.)

The MARYLAND EMERGENCY PHONE NET (MEPN) is a club, a member of the National Traffic System (NTS) and meets every night on 3920 kHz at 1800 local for the purposes of training operators in net procedures and traffic handling; to handle traffic for Maryland, the District of Columbia and Delaware; and to establish communications links in these areas so that, in the event of an emergency requiring Amateur Radio communication assistance, the MEPN will be prepared to exercise these links until the emergency subsides.

All Radio Amateurs are invited to participate in the MEPN, and those wishing to join the club and receive the monthly bulletin and roll call sheet should contact either W3FA or N3EGF.

Just talked with W3FA, the net treasurer. He reports that the current, paid-up membership is 65 ... down from the record 103 at the end of the year. He also advises that the next newsletter will list everyone's standing, dues-wise. The current dues are $5.00; however, over the years, some have paid more or less and have an outstanding balance. Check the newsletter, and you can get current and up-to-date.

Also, next month is election time again. Beginning on March first, nominations are open for director. K2EB will join the ranks of alternate and we need a new director... so nominations are in order, but get the OK from the nominee before you surprise him with an on-the-air nomination!

Plans for the annual picnic are progressing nicely. July is the date, and details will be available soon. I've heard tentative discussions already and reservations have been made. Check in and get full details.

We need some more daytime liaison stations for NTS check-in, especially for the 3RN slot at 1615. This net lasts for no more than 15 minutes, and then you relay traffic to the MEPN at 1800. If you can help, contact N3EGF.

Sorry I've missed the last few months, but work and travel have kept me kinda busy.

It's about time to pass the scribe and turn this article over to newer blood. How about a volunteer? It's easy, once-a-month work, and I'll be happy to talk to anyone about it.

Until next time...

See you ON THE AIR!
Pud - W3DQI

SKIING ACROSS THE NORTH POLE
With Amateur Radio

This spring, a team of six Soviet and four Canadian skiers will attempt to ski across the North Pole (actually the frozen Arctic Ocean) from the top of the Soviet Union to the top of Canada - a distance of about 1,100 miles. It will take them about 90 to 100 days. Amateur Radio will provide the major means of communications throughout the trip. The expedition is planned for the months of March/April and May. Watch for more details.

(Information from W5YI report 2/1/88)

Chaverim of Greater Washington

Meetings: As announced on the net.
Nets: Thursday evenings at 8:00 p.m. on the 145.25 repeater or the 145.29 repeater if the primary is down. All hams are encouraged to check in.

Our February meeting, like the past ones, was a great success. Forty members were present. Jim Talens - N3JT, the club president, gave a slide show presentation on his travels to the islands of Anguilla (VP2E land) and San Andres (HKØ land). Both are located in the sunny Caribbean.

Our last two weekly nets had more than twelve check-ins. The Westlink bulletins will continue to be broadcast before the net. Our club is planning to send a contingent to the up-coming brunch and installation of officers sponsored by the Chaverim of Delaware Valley, to be held in Philadelphia, PA on March 27. Anyone wishing to attend, please contact me or check in on the net.

Phil Baggish - WB4YKW, age 93, is now residing in the Hebrew Home of Greater Washington. He was very active on the air and, as a club mitzva, Dave - K3STM will help him install some equipment in his room so that he can get back on the air.

Charlie Lazarus -KA3JYS, is doing well in the land of milk and honey. He just received his new call, 4X6TQ, and is on the air on Tuesday mornings at 9:00 a.m. EST on 21,360 kHz. Be sure to give him a shout when you hear him. His address was in the last club newsletter. If you do not have the newsletter, it can be obtained by contacting me on the phone. Charlie gives his regards to all of his friends.

I hope everyone bought plenty of Chazerai at the Winterfest on the 28th. Don't forget to check into the net on Thursday evenings. We want to know that you are still active since we only meet every other month now.

73 and Shalom
Jon Binstock - NK3D

RF ENERGY AND HEALTH

A alleged link between Amateur Radio operators and certain forms of cancer has once again found its way into the press via a report by Dr. Samuel Milham. Experts have disagreed as to the significance of the study and the ARRL reports that "it certainly did not establish a casual link between Amateur Radio operation and certain cancer incidences." The press has been quick to pick up the story, however.

Dr. Milham studied the deaths of 1691 Silent Keys from Washington state and California and claimed he found a greater number of deaths among the Silent Keys from certain kinds of leukemias than were reported in the general population of white males in a typical year. His study also showed, however, that radio amateurs had fewer deaths than the general population from certain other kinds of leukemia. In the opinion of competent professionals, there were "serious flaws in Dr. Milham's methodology" in the original article published in 1985. The ARRL position on the original study was summed up in an editorial in the October 1985 QST and its Committee on Biological Effects of RF Energy will carefully review the latest report. The Quarter Century Wireless Association can show a great many amateurs who have been sitting in front of an amateur transmitter for a minimum of 25 years (and a number who have been licensed for 60 and 70 years) and are still going strong. ARRL says, don't pull the plug on the ham rig yet!

(Information from ARRL Letter 1/15/88) and AK3B)

Vienna Wireless Society

25 Years of Public Service
1963-1988

THE HOME OF WINTERFEST™

Meetings: 2nd and 4th Fridays of each month, 7:30 p.m.
Vienna Community Center, 120 Cherry Street, Vienna, VA
Repeater: K4HTA/R
Nets: Every Thursday on 146.085 in and 146.685 out.
Alternate simplex frequency is 147.51
10 Meter, 28.400 MHz 9:00 p.m. every night of the week except meeting nights.
Information: Bill Mills, KC5PF/4 (703) 937-4090 (Home), (703) 359-0141 (Work)
Mailing Address: P.O. Box 418, Vienna, VA 22180

25th ANNIVERSARY SPECIAL EVENTS STATION, K4HTA

On 6 February, the Vienna Community Center was buzzing with activity from seven Amateur Radio stations on the air (80 thru 2 meters and 2 meter packet). The Vienna Wireless Society operated K4HTA in commemoration of 25 years of public service. Brian Treadwell - WV4V, event director, and a large group of VWS members contacted over 400 stations during the day's activities. An enjoyable time was had by all. During the day, visitors dropped by for a live demonstration of Amateur Radio and a cup of coffee served by Jack Cole-K4LUG.

1988 DINNER DANCE

The Westwood Country Club in Vienna, Virginia, will be the location for the Vienna Wireless Society 25th Anniversary dinner dance. Ray Johnson - K5RJ, is the dinner dance chairman and he is developing an exciting program.

VWS RELAY EDITOR

Jim Parsons - WA4LTG, is the new editor of the VWS monthly newsletter, "The Relay." Jim is a Virginia Tech graduate and has had five years of newsletter experience with the Virginia Tech Amateur Radio Club. He has had articles published in CQ and other ham related journals.

TRAINING CLASSES

Dave Guffey - NY14V, VWS training coordinator, is supervising the Spring Novice and General/Technician Amateur Radio license training classes. The classes run for 10 - 12 weeks and are being held at the Vienna Community Center at 7:00 p.m. on Monday of each week. Bill Mills - KC5PF/4 and Jim Dickson -W14A are the instructors for the license classes.

LARGEST HAM FAMILY?

Nine hams in the immediate family is a record claimed by Jay Bates, KA7PVT. Jay and his wife are licensed, so are four of their children and the spouses of the three married children. If there is a larger licensed family, Jay would be interested to know about them.

(Caren's World 2/88)

PUBLIC SERVICE REPORT
NATIONAL CAPITAL AREA EMERGENCY AND TRAFFIC NETS

Daily:
1300 Virginia Traffic Net: 7.26 SSB
1800 Maryland Emergency Phone Net: 3.920 SSB
1800 Virginia Sideband Net: 3.947 SSB
1830 Virginia Slow Net: 3.68 CW
1900 Virginia Net (early): 3.68 CW
1900 MD-DC Net: 3.643 CW
1915 Shenandoah Valley Emergency Net: 146.22/.82 FM
2100 Vienna Traffic and Training Net: 28.4 SSB
2130 MD Slow Net: 3.717 CW
2200 MD-DC Net: 3.643 CW
2200 Virginia Net (late): 3.68 CW
2215 Virginia Late Net: 3.947 SSB

Weekends & Holidays:
4/1-11/15 1100/1500: Chesapeake Bay Weather & Traffic Net: 147.705/.105 FM

Sundays:
0900 Sunday Morning Coffee Net: 50.4 AM
1900 Maryland 6 Meter Free State SSB Net: 50.125
1900 Washington Co. 2-Meter Net: 146.94/.34 FM
2100 Md-DC-NVa Regional EC Net: 146.91/.31 FM

Mondays:
2000 Woodbridge Wireless Net: 147.84/.24 FM
2030 Maryland Mobileers Net: 146.805/205

Tuesdays:
1930 Arlington ARES Net: 146.58 FM
2000 Mt. Vernon ARES Net: 146.055/.655
2000 Montgomery Co. RACES/ARES Net: 146.46 FM

Wednesdays:
2145 (Third Weds. of each month) Virginia Section ARES Appointees Net: 3947 KHz LSB

Thursdays:
1900 Four State Net: 147.09/.69 FM
1930 Vienna Wireless Society Emergency Net: 146.085/.685 FM
2000 Alexandria Radio Club Net: 147.915/.315 FM
2000 Ole Virginia Hams Net: 146.37/.97 FM
2100 Prince Georges Amateur Radio Emergency Service Net: 147.75/.15 FM
2100 Vienna Wireless Society Traffic Net: 28.010 CW

Saturdays:
1900 MCNRC Net: 52.25/53.25 and 144.95 FM

Note: All times are local (EST/EDT) unless otherwise specified.
--... ...-- -.. . .-- ....- -. ..-. .-

PUBLIC SERVICE REPORT
NATIONAL CAPITAL AREA AMATEUR RADIO EMERGENCY SERVICE:

Virginia Section

Va. Section EC: Earl Bishop, N4EXQ, (804)270-7564
National Capitol District EC: Harry Jones, N4CWP (703)521-4624
Fairfax Co. EC: Joe Peters, WB4WZZ (703)241-0078
Vienna Asst. EC & editor of Public Service Report: Jeff Wilkes, W4NFA
9809 Meadow Dale Ct.
Vienna, Va. 22180
(703)281-4249
Mt. Vernon Asst. EC: Steve Schneider, WB4EEA (703)683-6570
Alexandria EC: Chuck Rexroad, N4HCP (703)971-0348
Arlington Co. EC: Craig Church, N4EFJ (703)979-8325
Prince William Co. EC: Harry Vorhauer, W4PVA (703)368-6050
Loudoun Co. EC: Bill Roemer, K3CUU (703)395-4905

Maryland/DC Section

Maryland-DC SEC: Al Taylor, KN3U (301)251-9464
Md. State RACES Officer: Joe Nollmeyer, W3YVQ (310)352-9073
Dist. of Columbia EC: Ken Williams, N3AQG (202)363-4234
Military District of Washington: Frank Hartnett, KA8PUU (703)642-5516
Allegany County EC: Gay Rembold, W3DFW (301)724-0674
Anne Arundel Co. EC: Kurt Fritsch, WA3TOY (301)768-7903
Baltimore EC: Richard Lovegrove, WB3EFG (301)323-2399
Calvert Co. EC: Woody Schwartz, W3ZNW (301)535-1281
Caroline Co. EC: VACANT
Carroll Co. EC: John Culleton, KC3FK (301)795-1159
Cecil Co. EC: Bill Doss, N3AJJ (301)287-5897
Charles Co. EC: Gould Turney, KA3DUE (301)868-3374
Dorchester Co. EC: Alan Waller, K3TKJ (301)943-8477
Frederick Co. EC: Rick Ogden, N3RO (301)845-2670
Garrett Co. EC: VACANT
Harford Co. EC: Steve Uhrig, WA3SWS
Howard Co. EC: Mike Carr, WA1QAA (301)799-0403
Kent Co. EC: Jim Bortner, WA3UJE (301)778-0589
Montgomery Co. EC: Hank Black, N3ESR (301)340-8595
N. Prince Georges Co. EC: Pud Reaver, W3DQI (301)498-6293
S. Prince Georges Co. EC: Gould Turney, KA3DUE (301)868-3374
Queen Anne Co. EC: Walter Brink, W3WPY (301)643-2933
Somerset Co. EC: Howard Cann, KA3MRX (301)651-2845
St. Mary's Co. EC: Al Barolet, KJ3E (301)862-3201
Talbot Co. EC: VACANT
Washington Co. EC: Pete Humphrey, W4FBA (301)739-5540
Wicomico Co. EC: Larry Murphy, NE3Y (301)543-2968
Worcester Co. EC: Bud Kilgore, KX3J (301)641-4291

Public Service Report, 9808 Meadow Dale Court, Vienna, Virginia 22180
Deadline for receipt of material is the fifth of the month

G AND G ELECTRONICS
OF MARYLAND

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AIR-1

ART-1

AIR ROM

All These Amateur Accessories formerly manufactured by

MICROLOG CORP.

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G&G ELECTRONICS

HOURS: MON & TUES 11 AM TO 9 PM
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SHACK SALES

Noncommercial advertising of Amateur associated equipment is available to subscribers of AUTO-CALL at a rate of 3¢ per word -- with a $1 minimum. Commercial vendors and nonsubscribers rate is 17¢ per word -- with a $5.50 (1 inch) minimum. Special headings or special spacing (e.g., one item per line) may be used but such ads will be charged at the column inch rate.

Estate sales for Widow's Assistance handled by a FAR club will be published without cost.

Full name and address must be provided with each ad but need not be published. No ads will be accepted over the telephone and all ads must be pre-paid. Since no effort is made to investigate advertisers, no warranty can be implied.

Copy must be received by the 8th of the month preceding publication.

FOR SALE: HY-Gain 18HT Hy-Tower 5-band, 50' vertical antenna - $150. Bill - NK3B (301) 843-1445 Waldorf, MD (03)

FOR SALE: Cubex 2-element, long boom, Triband Quad, matching transformer for single feed line. Unused - $200. Bill - NK3B (301) 843-1445 Waldorf, Maryland. (03)

USED GEAR TO SELL?
Give us a call or write
K3UKW
Tony Musero
1609 S. Iseminger Street
Philadelphia, PA 19148
(215) 271-8898
WE
BUY * TRADE * SELL
USED GEAR
(C12)

WANTED: Hallicrafters Sky-Buddy S-19 (not S-19R), National RIO, AGL, AGU, RHP. Also junker National AGS and NC-240-D receivers. John Nagle, K4KJ, 12330 Lawyers Road, Herndon, VA 22071 (703) 620-3066 (03)

WANTED: Lightning bug and Mac key. Bill - WB4EDB, Fredericksburg, VA (703) 373-0996 (06)

NORM'S ROTOR SERVICE
Rebuilt Rotors, Parts & Service
Call Norm Jeweler - K3LYW
677 Southlawn Lane
Rockville, MD 20850
(301) 340-0520
(12)

VACUUM TUBES: 70,000 in stock. Reasonable prices. Quick turn-around. VACUUM TUBE STORAGE BOXES: White. Four sizes. For lists send business SASE to TYGER ELECTRONICS, Box 750, Clinton, Maryland 20735. Phone Bob at (301) 248-7302. (C12)

YORK WINTERFEST

Ham/Computer-fest York Pennsylvlania will be held Sunday, March 6 at the Dover Firehall. Food refreshments. Inside tables $10. Registration $4. Tail-gating free. Spouse and children under 12 also free. Blacktop parking. General Admission 8:00 a.m. Talk-in on 146.37/97 and 147.93/33. For advanced information and registration, write to: YORK WINTERFEST, 5112 Roller Road, Millers, MD 21107 (02)

GALLUPS ISLANDERS!!

Get information: Reunion San Francisco late May aboard restored Liberty Ship, SS "Jeremiah O'Brien." 350 member association publishes a quarterly newsletter about WW-II Merchant Marine Radio Officers. Non-profit. Contact: Ralph Albers, W4ER, Secretary; GALLUPS ISLAND RADIO ASSOCIATION, Inc.; 5597 Seminary Road, Falls Church, VA 22041.(04)

Need Antenna or tower work done? Call L. Chertok - W3GRF. (301) 297-4888. (C12)

See Page 46 for further information and rates for Display Ads

ANNOUNCING!
THE 1988 GREATER BALTIMORE HAMBOREE AND COMPUTERFEST

SATURDAY, MARCH 26 AND SUNDAY, MARCH 27
MARYLAND STATE FAIRGROUNDS
TIMONIUM, MARYLAND

GATES OPEN AT 8 AM BOTH DAYS

GIANT AMATEUR RADIO, COMPUTER AND ELECTRONIC FLEA MARKET, SHOW AND SALE

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PC's and Clones, Commodore, Apple and others, plus:
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Monitors • Printers • Paper • Ribbons • Parts • Kits • Chips • Modems

Many Show Special Bargains
Save 10% to 90% • Acres of Free Parking • 2 Cafeterias

OUR 17th YEAR!

ADMISSION $4.00 ONE DAY OR $6.00 BOTH DAYS
SHOW WILL BE HELD IN ANY WEATHER!
Sponsored by: Baltimore Amateur Radio Club, Inc.
P.O. Box 95, Timonium, MD 21093

ARRL Approved

Talk-In
146.07-67

CALL SIGN BADGES: Custom license plate holders. Other custom engraving work to your specification. Commercial signage and displays. Club discounts. Business SASE to WB3GND, Box 750, Clinton, MD 20735, or call Bob at (301) 248-7302, evenings. (04)

LICENSE UPGRADES SUPEREASY. Superfast **Morse Code** Supereasy tapes, tailored by psychologist/engineer, allow passing with ease. Specify Novice/ General or General/Extra. Only $10 each. Supereasy **Written** Exams use memory aids to cut study time 50%. Novice, Tech, General: $5 each. Advanced, Extra: $10 each. Moneyback guarantee. Free catalog: Send SASE. Bahr, 2549-AC8 Temple, Palmbay, Florida 32905 (C03)

FOR SALE: Collins 30S1 Linear Amplifier; Collins 32V2 transmitter; Collins S-line (4 pieces); Collins 75A-4 receiver with matching speaker/ lamp console; Collins 51J4 receiver; Johnson Viking II transmitter; SBE 33 transceiver; 20mf/4000v oil filled capacitor; B&W 850A tank coil; frequency counter; digital VOM. Call nights (703) 644-7307 Springfield, VA

CHESS ON AMATEUR RADIO

Members of Chess & Amateur Radio International play chess everywhere! You'll find them on CW, SSB, RTTY, Packet, OSCAR, computer BBS, etc. Listen Sundays on 14.267 MHz at 1900Z and 28.367 MHz at 2000z. Find out more by writing CARI, 508 20th Street, Cloquet, MN 55720 (S3)

FOR SALE: New Trylon model 1678 guyed military grade tower, hot-dip galvanized steel, 16 inch face width, 75 pounds per ten foot section, 200 foot maximum height, bolted construction similar to AB-105, performance equivalent to Rohn 45 - $550 per 100 feet delivered within 100 miles, or TRADE FOR TS-830S or IBM PC-XT clone. Frank Donovan - W3LPL, 3055 Hobbs Road, Glenwood, MD 21738. (301) 854-6619 (04)

SWAP: COLLINS S-line 75S-3, 32S-3, 516F-2, SM-1; KENWOOD TS-130SE, fan, cw filter, mc-30, mc-50; DRAKE RV-7. WANT: R4-C/T4XC/AC-4, TS-830S, VFO 120, VFO-230, IBM PC-XT clone. Frank Donovan - W3LPL, 3055 Hobbs Road, Glenwood, MD 212738. (301) 854-6619. (04)

FOR SALE: Kenwood R-600 General Coverage receiver, mint condition. Astron RS-7A 7 amp 13.8 volt power supply. Ken - K2ZOQ Evenings (703) 644-1686 Springfield, VA (03)

FOR SALE: Heathkit SB-101, SB-640 LMO, spare tubes and parts. Best reasonable offer. Jack - W3VDL (703) 379-5713, 6020 Lebanon Drive, Falls Church, VA 22041. (03)

PROFESSIONAL CW OPERATORS
Retired or Active
Commercial, Military, Gov't, Police, etc., are invited to join the
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JOHN T. NUTTMANN, CPA (301) 652-5040

K3UAL PRINT - QSL CARDS
1520 Jutewood Ave., Hyattsville, MD 20785. Call Joe (301) 773-9383. (03)

IBM SOFTWARE: Factory sealed: Dow Jones Market Analyzer - $100; PFS Professional Write - $75; Microsoft Windows (1.01) - $25. USED: Lotus 1,2,3 (1A) - $50; Microsoft Word (1.1) - $35. Bill Shepherd - K3WS, 12,000 Twin Cedar Lane, Bowie, MD 20715 (301) 262-0155. (03)

WANTED: A code tutor to help me pass my 13 wpm. Joel, N3FSH, (202) 363-4118, NW Washington, DC. (03)

FOR SALE: KENWOOD TH-21AT with extra battery, perfect - $100. WA3UQR (301) 736-2685, Suitland, MD (03)

COLLINS: CP-1 Xtal-Pax, complete with 115 xtals plus gripper - $150. Other xtals for hambands, WARC, MARS, Shortwave and 10 meters for Collins and Drake-4 line also available.
AND
SHURE 444D mic. (grey color) with recoil cord and .717 plug - $30.00
AND
HEATHKIT: SB-610 Monitor Scope, New-$125. VTVM 1M-11, works great - $20.
AND
Micropones: Have six mics, excellent fork AM operations (No PTT capability, VOX only). Mics are primarily from PA and Broadcast service. The prices vary from $10 to $40 each.
AND
I will be selling at the Vienna Wireless "Winterfest" on Feb. 28. C U there. Harry Kaklikian - W4ACN, 4941 Andrea Ave., Annandale, VA 22003. Phone (703) 978-4402. (X03)

ANTIQUE RADIO BUFFS! Become a part of one of the country's fastest-growing vintage radio clubs. The Mid-Atlantic Antique Radio Club is an active group of radio collectors, restorers and historians. For membership application and sample newsletter, write Joe Koester, 249 Spring Gap So., Laurel, Md 20707. (301) 725-4229.

FOR SALE: Hard feedline (1) continuous 360 foot length of 1/2" Andrews, (2) 130 foot lengths of 1/2", (2) 105 foot lengths of 7/8" with connectors. Four foot commercial heavy gauge aluminum dish with adjustable feedline standoffs. WANTED: Free standing or guyed tower between 70' and 160' high. I will disassemble and remove. Need tower work done? Call Dave - N3EJT (301) 474-7405, College Park (04)

FOR SALE: Yaesu 726-R VHF/UHF Xcvr with 2 meters, 6 meters, 430-440 MHz, Satellite duplex module , 600 Hz cw filter, DC cable, microphone and manual - $895. R. Arrowsmith, W4JNN, 3505 Woodburn Rd., Annandale, VA 22003 (703) 560-7161 (3)

WANTED: Hallicrafters S-38C Receiver. Joel, N3FSH (202) 363-4118, NW Washington, DC (03)

FOR SALE: WILSON MT-61B 61 foot free-standing, tilt-over, crank-up tower with RB-61B rotating base. $795/offer. Stan, W3INK. (301) 977-7987, Gaithersburg, MD (03)

WANTED: Gin pole for Rohn towers, climbing belt, etc. Bill - NK3B (301) 843-1445, Waldorf, MD (03)

WANTED: An Amrad two-dial Neutrodyne, & 1933 Kadette, Jr. A Morradian, 5 Priscilla Lane, Winchester, MA 01890

IMRA

People Helping People

The International Mission Radio Association is an incorporated, non-profit, non-denominational organization of radio amateurs and associates who provides various services to missionaries. Traffic Net Monday through Saturday on 14,280 MHz 1:30 - 3:00 pm Eastern. For information, write Rev. Thomas Sable, S.J., University of Scranton, Scranton, PA 18510 (S)

FOR SALE: From estate of K4BTD. KENWOOD TR-7950 2-meter mobile xcvr; KENWOOD TR 24600A 2-meter hand-held with base stand ST-2. KENWOOD 24600A hand-held with speaker/mike (without base stand). Other miscellaneous items, parts, "junque," etc. Call Roger Menking (son of K4BTD) (703) 893-7878 McLean, VA (WA)

WANTED: Ham Radio Callbook for 1951. Joel Leising (202) 887-0353. (03)

FOR SALE: YAESU FRG-7 Rcvr. Excellent, with fine tune and C64 frequency readout (See Jan '88 73 Magazine) - $150. HEATH SB301 Ham Rcvr, fair - $50. .... WANT: COLLINS 51S1 or DRAKE R4B with SW Xtals - must be reasonable. Alan-N4LUS, (301) 229-7069 evenings, Bethesda, MD (03)

FOR SALE: Keyboard, CW AKB-1-$100; Linear SB-220 with new wider spaced capacitor - $435; Xcvr TT Delta with PS and Mike - $450; Yagi KLM 6-el 432 - $15; ATV Tuner, Science Workshop AT VC10 - $30; ATV Tuner, BlowderTongue BTX 111 - $15; Antenna meter, Heath HM11 - $10; Metronome, Heath - $10; Coax switch, Bird 72-2 DPDT - $45; Transistors, over 100 - 80 new - $10; Relays, antenna SPDT, good to 500 MHz - $6 each; 30 small variable caps, some butterfly - $12; Coax switch, SPDT Goldline 1kw - $10; Antenna meter, UHF Werlatone 27-450 MHz, 50 watt-$50; Signal Generator, RF 10-480 MHz, Measurements 80 - $175. Have resistors, capacitors, manuals, books, parts. Some new in boxes. Larry - W3MSN (301) 894-3977 Oxon Hill, MD. (03)

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SANTEC

The One You Swear By ... Not Swear At ...

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• Memory channels • Automatic standard or "Oddball" offset and sub-audible tone programmable per channel. • Battery saver on squelch receive • Four modes of scan, including "Scanlock" • A powerful 5-watts when operating on direct DC • .5 and 3-1/2 watts with slide-on nicad battery pak • Analog lighted "S" meter • Lighted alpha-numeric LCD readout • Simplified keyboard operation (No crib cards needed) • 142-150.995 mhz

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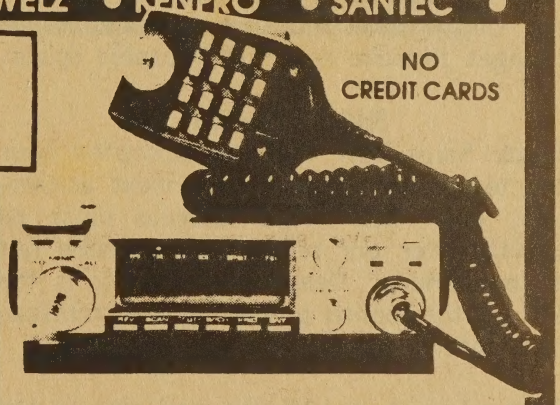

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NC Call (919) 993-5881

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COLFAX, N.C. 27235

ANSWERS TO QUESTIONS WE RECEIVE

Copy for Auto-Call will be accepted in any form - handwritten, typed, compatible computer disk or modem. (We use an IBM AT clone and WordPerfect program, Hayes compatible modem - 300 or 1200 baud.) All hard copy is re-typed to preserve uniformity of style in the magazine.

For your benefit in determining spacing, type 80 (12 pitch) characters per line and 58 lines per page - including the space taken up by headings, photographs, etc. Either black-and-white or color photos can be used as long as the contrast is good. Master copy, which is to be reproduced directly, should be in black ink on white paper. Any copy can be reduced or enlarged as desired.

Columns from Foundation member clubs are eagerly solicited and any items of general Amateur Radio interest are most welcome. The editor does reserve the right to edit or reject any portions of any copy submitted and to make minor changes to make copy fit available space.

SHACK SALES

Shack Sales will NOT be accepted over the telephone. Remittance must accompany each ad. Full address must be provided for our reference but need not be published. Deadline for copy is the 8th of the month preceding the publication date.

Each ad must include the call sign or the full name of the advertiser. If the full address is not included in the ad, we prefer to indicate the city along with the telephone numbers so that readers will know whether a long-distance charge is involved. The entire telephone number - including city - counts as only one word. We do not count postal zip codes. Otherwise, each word, abbreviation, model number, or group of letters/numbers is counted as one word.

See additional information in next column. If you have other questions, phone Ethel - K4LMB at McLean, Virginia (703) 536-8469 - at any reasonable hour.

Auto-Call Advertising

SHACK SALES

Noncommercial advertising of Amateur associated equipment is available to subscribers of Auto-Call at a rate of 3¢ per word -- with a $1 minimum. Commercial vendors and nonsubscriber rate is 17¢ per word -- with a $5.50 minimum.

Special headings or special spacing (e.g., one item per line) may be used but such ads will be charged at a column inch rate -- $1 per inch for noncommercial, $5.50 per inch for commercial vendors and nonsubscribers.

Full name and address must be provided with each ad but need not be published. No ads will be accepted over the telephone and all ads must be pre-paid. Since no effort is made to investigate advertisers, no warranty can be implied.

DISPLAY ADS

DISPLAY ADS are "boxed" and may contain artwork or photographs. They may be placed along with the Shack Sales or displayed in other sections of the magazine. Requests for specific locations will be honored if practical but cannot be guaranteed.

DISPLAY ADS are charged according to size and duration of run. Rates per issue:

Page	Col. inch	1 Year	6 Times	3 Times	1 Time
Full	18	$75.00	$90.00	$100.00	$105.00
1/2	9	55.00	65.00	71.00	75.00
1/3	6	40.00	46.00	51.00	54.00
1/4	4½	33.00	38.00	41.00	43.00
1/6	3	22.00	26.00	28.00	30.00
1/8	2¼	17.00	20.00	22.00	23.00
1/9	2	16.00	19.00	21.00	22.00
1/18	1	8.50	10.00	11.00	11.50

Based on camera-ready artwork.
Extra charge for halftoning photos.

All copy must be received by the 8th of the month preceding publication.

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BENEFITS FOR YOU: QST, QSL Bureau, Awards (DXCC, WAS, etc.), Low-Cost Insurance, Operating Aids, Government Liaison and more — Much more! For You!

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Virginia Beach, VA 23454
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Street _____
City _____ Prov./State _____ PC/ZIP _____

$25 in U.S./$30 in Canada/$33 elsewhere (U.S. funds)
Licensed Amateurs, age 17 or under or age 65 or over, upon submitting proof of age, may request the special dues rate of $20 in the U.S. ($25 in Canada, $28 elsewhere (U.S. funds).
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Falls Church, VA 22046-1452

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CITY _____ STATE _____ ZIP _____

Make check payable to Foundation for Amateur Radio

MARCH 1988

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
february 1988 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		1 PG Wireless	2 BARC MARC	3 Anne Arundel	4 MD Mobileers Shenandoah	5 VEC College Pk
6 Chaverim	7 Dept of State	8 APL Frederick	9 MADRAS Laurel Pentagon - FAR -	10 No Virginia Mt. Vernon	11 Alexandria Vienns	12
13 MetroComm VEC Takoma Pk	14 PVRC	15 Arlington PG Wireless Woodbridge	16 BARC MARC Goddard	17 Anne Arundel	18 Rock Creek Shenandoah	19 Cap.City Tri County VEC Catonsville Laurel Richmond
20 VEC Baltimore	21 Ole Va Hams Sterling Pk	22	23 Laurel MADRAS	24	25 Alexandria Vienna	26 VEC BARC HAMFEST Timonium
27 Adventists	28	29	30	31 VEC Takoma Pk		

april 1988

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30